




**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)	Title: 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	22/04/2021	
Monitoring period number and duration of this morning period	Monitoring Period Number: Fourth Monitoring Period: 01/01/2020-21/03/2020 (both days inclusive)	
Number and version number of the monitoring report to which this report applies	Version: 3.0 Monitoring Report Number: 4	
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	124,834 tCO _{2e}	
Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs covered in this report	17,110 tCO _{2e}	
Name and UNFCCC reference number of the DOE	Earthood Services Private Limited 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 CDM PoA 9948 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 target countries.

In absence of the PoA, boiling water using fossil fuels / non-renewable 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-P1-0003-CP1, 9948-P1-0005-CP1 to 9948-P1-0013-CP1 (10 CPAs).

The verification team confirms that the total emission reductions achieved under this monitoring period from 01/01/2020-21/03/2020 (inclusive of both days) are 17,110 tCO₂e.

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-P1-0003-CP1, 9948-P1-0005-CP1 to 9948-P1-0013-CP1 (10 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.4.0: 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/13/
- 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 remote audit survey (including sampling approach (refer Section D.4 of this report) to be applied)
- e) Remote Audit Survey (refer Section D.2 of this report) (assessment of physical implementation of CPAs and 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 objective evidence)
- 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 10 CPAs (**9948-P1-0003-CP1, 9948-P1-0005-CP1 to 9948-P1-0013-CP1**) for the monitoring period **01/01/2020 – 21/03/2020** (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) **Version 3.0 dated 15/04/2021/13/**. 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 **01/01/2020-21/03/2020** (including both days) amount to **17,110 tCO₂e**. 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.

** Also, the interviews were conducted with the head of the schools who were well versed with the English language. They were able to understand and respond to our remote survey questions in English. Thus, no linguistic issue was faced during this remote 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 WPS. The recorded survey forms by CME were checked with DOE remote audit survey observations. The verification team interviewed the monitoring staff and checked their training records.
2.	Calculation Errors	Med	The process in manual and therefore there is potential risk of errors / omissions/misstatements.	All calculations were checked by verification team with respect to 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 (tCO ₂ e)/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 (tCO ₂ e) in this monitoring period	25,257	17,110*
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-P1-0003-CP1, 9948-P1-0005 – 9948-P1-0013-CP1						
<u>For water purifier</u>						
QPW _y	Annually	10(calculated parameter for each CPA)	10(100%)	There were errors in calculation which have been	All the errors have been corrected*	No extrapolation is required as 100% values checked and corrected.

				corrected (10).		
n _{WB}	Continuously	1	1	None	NA	NA
T _{y,i}	Continuously	2,263- UltraFLO, 265-Multi- Barrier UV, 0 UltraTAB (2,528)	2,263-UltraFLO, 0-Multi-UV Barrier UV and 0 UltraTAB ¹ , Sales database/5/ was checked for the information. 11 WPS were checked during remote survey for cross check.	None	NA	NA
N _{y,i}	Continuously	2,528 (one value for each institution) and 10 values (average value for each CPAs)	Entire sales database was checked for the information.	None	NA	NA
Water quality (WQ)	Annually	51	11 (based on acceptance sampling)	None	NA	NA
Operational Units _i	At least once per verification	54	11 (based on acceptance sampling)	None	NA	NA
f _{NRB}	Continuously	1	1	None	NA	NA
EF _{projected_fossil fuel}	Continuously	1	1	None	NA	NA
Existence of public distribution network of safe drinking water	Annually	51	11 (based on acceptance sampling)	None	NA	NA
EG _{PJ,i,y}	Annually	1	1	None	NA	NA

The ERs mentioned in MR (public) and the ER sheet were found to be different. An inconsistency/calculation error was identified by the CME for parameter QPW_y in the ER calculator after the MR was published for webhosting. Thus, CAR#02 was raised and resolved. Moreover, based on I&R issue received from UN, the CME has applied a conservative approach to credit the systems for school operational days during the monitoring period instead of duration of the monitoring period which has led to reduction in the total ERs significantly. There were no other errors identified during the desk review of MR, ER Sheet and other supporting documents shared by the CME.

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 review of data and information provided for its completeness.

¹ Multi barrier UV systems have not been monitored by CME for this monitoring period, hence they were not considered under verification Sample.

- 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 inspection²

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	-	04/11/2020 & 05/11/2020	Deepika Mahala and Vaishali Vatsa
2.	Interview of the head institutions of the school related to the deployed project devices	-	04/11/2020 & 05/11/2020	Deepika Mahala and Vaishali Vatsa

*No 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 two of the conditions for verification that require a mandatory site visit were applicable.

Para 321 of VVS for PoA, version 2.0 /9/ says that It is mandatory for the DOE to conduct an on-site inspection at verification for the included CPA if:

- It is the first verification for the DOE with regard to this CPA;
- More than three years have elapsed since the last on-site inspection conducted for verification for the CPA; or
- The CPA has achieved more than 300,000 tCO_{2e} of GHG emission reductions or net anthropogenic GHG removals since the last verification when an on-site inspection was conducted.

This is the third verification period for the CPAs under verification, but no physical site visit was conducted during previous verifications of these CPAs (MPB4 and MP3B1). Thus, the site visit was mandatory for this batch.

At the time of verification, the country where DOE office is based, India is witnessing the second highest number of COVID-19 infected people in the world, and total number of infected cases reaching at 10.61 million /44/. Under such circumstances, the verification team is avoiding the risk of contracting the virus by not doing the on-site visit. Therefore, site visit was not conducted for this issuance due to outbreak of global pandemic Covid-19, increased risk of exposure and contraction due to travel as the cases in the country are spurring/43/.

Also, it was duly assessed if the site visit can be postponed /34/. The delay to site visit would mean that the verification would have to postponed. However, communications on this topic were made with CME, and evidence were provided by CME that delay to the verification site visit would lead to a delayed issuance. This would result in a contractual breach of (and termination/rescission of) underlying Emissions Reductions Purchase Agreement and loss of all future revenue for the CME as verified from ERPA /35/ by the verification team. On the basis of above, the verification team decided to follow the UN EB 106 Para 26 decision, and adopted an alternative approach for site visit, which is discussed in the below paragraphs.

UN EB decision on Mandatory DOE on-site visits:

UN EB 106 report (Para 26) mentions the decision EB took on 20th March, in relation to DOE on-site visit which was applicable from 23rd March 2020 to 23rd June 2020/41/. The Executive Board of the Clean Development Mechanism (CDM) agreed on 23 June 2020, on an exceptional basis considering the COVID-19 pandemic, to extend the period in which CDM Designated Operational Entities (DOEs) may apply alternative measures of validation/verification to mandatory on-site inspections until 31 December 2020/42/ which has now been extended till 30/06/2021 in EB 108/45/.

Therefore, for reasons provided above, and in line with UN EB guidelines, the assessment team conducted the verification for this PoA batch using alternative means as defined in the CDM VVS-PoA, ver. 2.0/9/. DOE verification team applied standard auditing techniques while verifying the PoA verification, as discussed below.

² This table lists down the activities conducted during the remote survey

Alternative means applied:

Following alternative means have been used to verify the project details:

1. Remote Audit Survey 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 skype meeting. Random samples for eleven WPS users (details on sampling provided in section D.3) were drawn from the sample survey sheet and interviewed through skype video / audio calls (recorded).
2. Photographic evidence of the Aquagenx Testing kit and water quality testing results /30/, installed WPS with Unique Product IDs/27/, Water Quality Test Photographs /36/, Monitoring Survey (filled) Forms/18/.
3. Complaint Log (Scanned Sample) /37/
4. Monitoring personnel certificates/20/
5. Review of Other Documentary evidence (ER sheet/4/, Sample Size Calculation sheet /4/, Monitoring Data sheet /4/ amongst others)
6. Review of Basic information related to the WPS installation (Purchase order/14/, Delivery Notes/21/) and the interview of the respective school representative.

D.3. Interviews³

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Brown	Julie	Impact Carbon	04/11/2020-05/11/2020	Sampling Surveys	Deepika Mahala, Vaishali Vatsa
2.	Neville	Tim	Impact Water	04/11/2020-05/11/2020	Implementation	Deepika Mahala, Vaishali Vatsa
3.	Akinyemi	Zacch	Impact Water Nigeria	04/11/2020-05/11/2020	Implementation, Sales records	Deepika Mahala, Vaishali Vatsa
4.	Obunaya	Samuel	Impact Water Nigeria	04/11/2020-05/11/2020	Database management	Deepika Mahala, Vaishali Vatsa
5.	Huelsenbeck	Mark	Impact Water Nigeria	04/11/2020-05/11/2020	Monitoring surveys	Deepika Mahala, Vaishali Vatsa
6.	Lohia	Rohit	CSIPL	04/11/2020-05/11/2020	Monitoring Report, Sampling methodology, ER calculations	Deepika Mahala, Vaishali Vatsa
7.	Kumar	Nihar	CSIPL	04/11/2020-05/11/2020	ER calculation and Sampling	Deepika Mahala, Vaishali Vatsa
8.	Kumar	Ritesh	CSIPL	04/11/2020-05/11/2020	ER calculation and Sampling	Deepika Mahala, Vaishali Vatsa
9.	Tubi	C.M.	New Creation Nursery and Primary School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
10.	-	Olawuyi	Goshen School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
11.	Esther	Samuel	The Land of Success Group of Schools	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
12.	A.K.	Yusuf	Alake Nursery/Primary School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
13.	F.O.	Agbaje	Anglican Women Nursery	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
14.	Fausat	Tanigbola	Nurul-Ilahy School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
15.	Ojo	Awe Julius	Bobas High School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa

³ Interviews were conducted via Skype Call

16.	Ibrahim	Kazim	The Tripple Star Nursery Primary School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
17.	Ololade	Oduniyi	Olu Ola Primary School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
18.	-	Olagbem i	Christ's Nursery and Primary School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	Deepika Mahala, Vaishali Vatsa
19.	Akpan	Daniel	Methodist Academy Nursey and Primary School	04/11/2020-05/11/2020	DOE Remote survey sample (Ultra FLO)	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 8.0/19/ 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 all the CPAs⁴ which are part of this batch under issuance. The CME applied stratified random sampling at the unit level, giving an equal chance of selection to each unit in the sampling frame. Thus, a PoA 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 WPS 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-P1-0005 to 9948-P1-0013-CP1	0.5%	20%	10%	10%	11	0

⁴ CPA 9948-P1-0003-CP1 has not been monitored by the CME for this monitoring period. Refer section E.3.2.1 of this report for further details

The verification team selected the random samples of 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 installed/distributed
Ultra FLO	6,637
Ultra Tab	738
Multi-Barrier UV	273

The CME during the current monitoring period was unable to conduct the monitoring of Multi-Barrier UV and UltraTAB units and has considered a PRC (discussed in detail under section E.3.2.1 of this report). Given, CME has not monitored Multi- Barrier UV and UltraTAB, hence the acceptance sampling was only applied to the monitoring results of UltraFLO. Thus, samples of Ultra-Flo units were chosen randomly (using website www.randomizer.org) out of a total of 54 CME's monitored samples (as part of monitoring survey). As per audit plan 11 systems were required to be audited by the DOE. The DOE surveyed 11 samples of Ultra FLO 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	CL#06	-	-
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 ⁵	-	-	-
• 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#06	-	-
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	-	-	-

⁵ Other standards, methodologies, methodological tools, and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

the 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 CL#02 CL#03 CL#04 CL#05	CAR#01 CAR#02 CAR#03	FAR#01 FAR#02
• Implementation of sampling plan	-	CAR#01	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	-	-	-
• Calculation of baseline GHG emissions or baseline net GHG removals by sinks	-	CAR#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	-	-	-
• 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	06	04	02

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 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 findings were raised.
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/. Two FARs are found raised during last verification/40/. However, these FARs were raised against the Request for Review feedback received in MP3, which happened after the publication of request for issuance for MP4. Besides, these two FARs have been found to be adequately addressed by the CME in the current monitoring period against the RfR questions received (refer appendix 4 for

details). Two FARs have been raised in this verification to be addressed for subsequent verifications. Please refer Appendix 4.

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, 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	Yes	08/05/2017	7.0	Yes ⁶
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	Yes	04/10/2017	7.0	Yes ⁷
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 6, Version: 5.0, 9948-P1-0006-CP1	Yes	04/10/2017	7.0	Yes ⁸
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 7, Version: 5.0, 9948-P1-0007-CP1	Yes	04/10/2017	7.0	Yes ⁹
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 8, Version: 5.0, 9948-P1-0008-CP1	Yes	04/10/2017	7.0	Yes ¹⁰
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 9, Version: 5.0, 9948-P1-0009-CP1	Yes	04/10/2017	7.0	Yes ¹¹
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 10, Version: 5.0, 9948-P1-0010-CP1	Yes	04/10/2017	7.0	Yes ¹²
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 11, Version: 5.0, 9948-P1-	Yes	04/10/2017	7.0	Yes ¹³

⁶ https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss170588077/view

⁷ https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss170588077/view

⁸ https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss170588077/view

⁹ https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss170588077/view

¹⁰ https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss170588077/view

¹¹ https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss170588077/view

¹² https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss170588077/view

¹³ https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss170588077/view

0011-CP1				
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 12, Version: 5.0, 9948-P1-0012-CP1	Yes	04/10/2017	7.0	Yes ¹⁴
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 13, Version: 5.0, 9948-P1-0013-CP1	Yes	04/10/2017	7.0	Yes ¹⁵
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):	No	18/11/2018	7.0	NA

¹⁴ https://cdm.unfccc.int/PoAIssuance/iss_db/poais170588077/view

¹⁵ https://cdm.unfccc.int/PoAIssuance/iss_db/poais170588077/view

CPA 26, Version: 4.0, 9948-P1-0026-CP1				
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	No	26/04/2019	7.0	NA

Programme of Activities (PoA): CPA 41 supported by Republic of Korea, Version: 2.0, 9948-P1- 0041-CP1				
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	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 44 supported by Republic of Korea, Version: 1.0, 9948-P1- 0044-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 45 supported by Republic of Korea, Version: 1.0, 9948-P1- 0045-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 46 supported by Republic of Korea, Version: 1.0, 9948-P1- 0046-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 47 supported by Republic of Korea, Version: 1.0, 9948-P1- 0047-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 48 supported by Republic of Korea, Version: 1.0, 9948-P1- 0048-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 49 supported by Republic of Korea, Version: 1.0, 9948-P1- 0049-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 50 supported by Republic of Korea, Version: 1.0, 9948-P1- 0050-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 51 supported by Republic of Korea, Version: 1.0, 9948-P1- 0051-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 52 supported by Republic of Korea, Version: 1.0, 9948-P1- 0052-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 53 supported by Republic of	No	26/04/2019	7.0	NA

Korea, Version: 1.0, 9948-P1-0053-CP1				
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 54 supported by Republic of Korea, Version: 1.0, 9948-P1-0054-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 55 supported by Republic of Korea, Version: 1.0, 9948-P1-0055-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 56 supported by Republic of Korea, Version: 1.0, 9948-P1-0056-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 57 supported by Republic of Korea, Version: 1.0, 9948-P1-0057-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 58 supported by Republic of Korea, Version: 1.0, 9948-P1-0058-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 59 supported by Republic of Korea, Version: 1.0, 9948-P1-0059-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 60 supported by Republic of Korea, Version: 1.0, 9948-P1-0060-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 61 supported by Republic of Korea, Version: 1.0, 9948-P1-0061-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 62 supported by Republic of Korea, Version: 1.0, 9948-P1-0062-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 63 supported by Republic of Korea, Version: 1.0, 9948-P1-0063-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 64 supported by Republic of Korea, Version: 1.0, 9948-P1-0064-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 65 supported by Republic of Korea, Version: 1.0, 9948-P1-0065-CP1	No	26/04/2019	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 66 supported by Republic of Korea, Version: 1.0, 9948-P1-0066-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 67 supported by Republic of Korea, Version: 1.0, 9948-P1-0067-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 68 supported by Republic of Korea, Version: 1.0, 9948-P1-0068-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 69 supported by Republic of Korea, Version: 1.0, 9948-P1-0069-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 70 supported by Republic of Korea, Version: 1.0, 9948-P1-0070-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 71 supported by Republic of Korea, Version: 1.0, 9948-P1-0071-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 72 supported by Republic of Korea, Version: 1.0, 9948-P1-0072-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 73 supported by Republic of Korea, Version: 1.0, 9948-P1-0073-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 74 supported by Republic of Korea, Version: 1.0, 9948-P1-0074-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 75 supported by Republic of Korea, Version: 1.0, 9948-P1-0075-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 76 supported by Republic of Korea, Version: 1.0, 9948-P1-0076-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 77 supported by Republic of Korea, Version: 1.0, 9948-P1-0077-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA):	No	26/04/2019	7.0	NA

CPA 78 supported by Republic of Korea, Version: 1.0, 9948-P1-0078-CP1				
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-	No	26/04/2019	7.0	NA

0090-CP1				
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	No	11/06/2019	7.0	NA

Programme of Activities (PoA): CPA 103 supported By Republic of Korea, Version: 1.0, 9948-P1- 0103-CP1				
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. During this monitoring period, 9 CPAs of Type 2: Technologies for institutional water consumption, with no project emissions and 1 CPA of Type 3: Technologies for institutional water consumption, with project emissions, were considered. This monitoring report includes the implementation of 10 CPAs from 9948-P1-0003-CP1,9948-P1-0005-CP1 to 9948-P1-0013-CP1 in Nigeria. The coordinating and managing entity (CME) is Impact Carbon, and Impact Water is the CPA Implementer of these CPAs/15/. Their roles and responsibilities are defined in the signed agreement.

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

The aforesaid CPAs involve dissemination of two types of water purification systems:

1. Chlorination (UltraFLO/UltraTab)
2. Multi-Barrier UV

The technical specifications of the WPS distributed under the CPAs is provided in the table below:

Description	UltraFLO	UltraTab	Multi-Barrier UV
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)	System Height: ~44cm System Length: ~36 cm System Width: ~19 cm
Application	Piped water	Un-piped water	Piped water
Flow rate	20L/min	1 tablet treats 100 L	5-12 L/min
Capacity/lifespan	340,000 L / 5-year expiry	10,000 L / 5-year expiry	4,088,232 L / 7 years
Fixed or Portable	Fixed	Portable	Fixed
Removal of E. Coli	99 (2-log)	99 (2-log)	99 (4-log)
Watts/Voltage	Not applicable	Not applicable	14 W

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. The Verification team assessed the following information to verify the capacity and lifetime of systems under the CPAs:

- I. Technical specification including capacity / expiry of UltraFLO issued by Medentech (technology supplier)
- II. Technical specification including capacity / expiry of UltraTAB issued by Medentech (technology supplier)
- III. The UltraTAB strip clearly mentions the treatment capacity of 1 tablet as 100ltrs and an UltraTAB pack is standardized at 10 strips of 10 tablets each, rendering the capacity of UltraTAB pack as 10,000 ltrs (verified physically during previous site visits as well as UltraTAB photos).
- IV. UltraFLO Installation Manual (specifying inlet port size, pressure rating etc.)
- V. UltraFLO cartridges are manufactured in a standardized size as per the dimensions specified in the CPA-DDs and MR (verified physically during previous site visits as well as UltraFLO dimension declaration by CME) and pertains to the specifications issued by Medentech.
- VI. The expiry of the UltraFlo/ UltraTAB was also found mentioned on the UltraFLO cartridge / UltraTAB pack respectively as 5 years (photographs of UltraFlo and UltraTAB units)
- VII. Technical specification / expiry of Multi Barrier UV issued by Rotex
- VIII. Multi-Barrier UV - Technical Specification from Supplier (Rotek) for UV systems confirming treatment capacity and other parameters (inlet port size, pressure rating, wattage etc.)
- IX. Multi-Barrier UV - Lifespan confirmation from Supplier (Rotek)
- X. Installation Logs for Multi-Barrier UV and UltraFlo systems confirming piped applications.

The photographs of the WPS/27/ installed by the CME were checked by the verification team and found to be in-line with the technical description provided in the registered PoA-DD/1/ and Monitoring report/13/ and manufacturer's specifications /28/.

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

Skype calls /38/ with the personnel 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 remote audit survey, 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 have 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 was conducted by the verification team; 11 WPS (11 for Ultra FLO) were surveyed. The uniqueness of the system was identified from UID written on the units (either on UltraFLO cartridges)/27/. Along with the unique ID the following details are also noted in the database:

- a) Type of system (UltraFLO / UltraTAB / Multi-Barrier UV)
- b) Unique serial number of the units installed / distributed
- c) Date of installation / distribution
- d) Address of institution
- e) Type of institution (Boarding / Non-boarding)
- f) Institution population count (number of students / staff in boarding / non-boarding category)

	<p>The information of the installed WPS was also verified from the CME database/5/ which was cross checked for 11 WPS samples with their corresponding purchase orders/14/.</p> <p>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 comparing ex-ante estimated ERs in the CPA DDs/2/ for the corresponding period with the actual ERs achieved.</p> <p>The CPAs are within the threshold limits of the applied methodology/6/.</p> <p>The monitoring report was compared and verified against the description provided in the revised accepted PoA-DD/1/ and found to be correct.</p>
Findings	CL#06 was raised and resolved.
Conclusion	<p>In view of the information's verified through the remote audit survey and interviews, the verification team is able to confirm that all physical features (technology, project equipment (as applicable), 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.</p> <p>The emission reductions achieved during the current monitoring period are 17,110 tCO₂e. Justification for this has been assessed in further sections of report.</p>

E.2.2. Implementation and operation of the management system

Means of verification	<p>The verification team through interviewing the CME, CPA Implementer, Monitoring Personnel and WPS End-users assessed the management systems in place to implement the monitoring of the PoA. This included the review of roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system through remote audit survey. 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.</p> <p>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 /14/, delivery notes /21/ and Salesforce data /48/ to confirm that information for any system installed/distributed (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.</p> <p>The CME also has a customer care centre which contacts the institutions on a regular basis to ensure if the cartridge replacement (Ultra FLO) or new packets of tablets (Ultra TAB) are required or not.</p> <p>For monitoring survey, a monitoring team was organized by the CME consisting of trained monitoring staff/20/, who conducted the Aquagenx tests /18/, /30/, /36/ (water quality tests) and Usage surveys/18/. The CME's monitoring manager is responsible for QA/QC of the data, analysis and reporting in the monitoring report. QA/QC procedures were 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/, /5/ respectively. 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 /38/. The evaluation of the water quality test is done in the main office. The verification team also checked training records of the monitoring & data recording personnel/20/.</p> <p>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/.</p>
Findings	CAR#02 was raised and resolved.
Conclusion	The verification team from the desk review and remote survey assessment confirms that the

	monitoring management system of the PoA is in place with the responsibilities properly identified and established.
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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/PRCCContainer/DB/prcp445611461/view
PRC-9948-001	Approved	08/05/2017	https://cdm.unfccc.int/PRCCContainer/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. Impact Water is the implementer of the CPAs and has fully implemented the CPAs with the help of Sales and Distribution Partners (SDP). The same has been verified from the agreement between the CME and CPAI /15/. This monitoring report includes the implementation and monitoring of 10 CPAs- CPA 9948-P1-0003-CP1, 9948-P1-0005-CP1 to 9948-P1-0013-CP1 in Nigeria. The table below provides details on CPA and technology specific figures for this monitoring period:						
	CPA no.	Crediting period	No. of units (installed)			Estimated ERs	ERs achieved
			FLO	TA B	Multi-barrier UV		
	9948-P1-0003-CP1	23/05/2017-22/05/2024	0	0	273	5,647	-12
	9948-P1-0005-CP1	04/10/2017-03/10/2024	1,172	0	0	13,243	1,766
	9948-P1-0006-CP1	04/10/2017-03/10/2024	845	0	0	13,243	1,014

9948-P1-0007-CP1	04/10/2017-03/10/2024	802	0	0	13,243	2,472
9948-P1-0008-CP1	04/10/2017-03/10/2024	756	0	0	13,243	1,595
9948-P1-0009-CP1	04/10/2017-03/10/2024	682	0	0	13,243	1,804
9948-P1-00010-CP1	04/10/2017-03/10/2024	556	0	0	13,243	1,460
9948-P1-0011-CP1	04/10/2017-03/10/2024	713	0	0	13,243	2,537
9948-P1-0012-CP1	04/10/2017-03/10/2024	631	262	0	13,243	2,508
9948-P1-0013-CP1	04/10/2017-03/10/2024	480	476	0	13,243	1,966
	Checked from the UN website /12/	Checked from sales database/5/			Checked from the ER sheet/4/	

The start date of crediting period, inclusion dates of the CPAs were checked from the UN website /12/. The First WPS Installation dates were checked from the screenshots of salesforce database/49/.

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 February 2020 will be eligible for crediting only in the month of March 2020.

Given, the current monitoring period is ending in 21/03/2020, therefore only the units installed in February 2020 (up to 29-02-2020) are eligible for crediting under the concerned monitoring period. Thus, the CME has considered 29-02-2020 as the cut-off date of installation covered 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 -12 tCO₂e – 2,623 tCO₂e, which is below the threshold of type III 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 tCO₂ 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 tCO₂ 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 600tCO₂e 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 Impact Water 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.

The aforesaid CPAs involve dissemination of two types of water purification systems:

1. Chlorination (UltraFLO / UltraTab)
2. Multi-Barrier UV

The technical description of the systems has been verified under E.2.1 of this report.

It is noteworthy, Multi-Barrier UV and UltraFLO systems are fixed type of water purification units and can only be installed when water is being procured through piped connection. These two WPS types can work only when they are mounted on a piped connection and water flows through them. Hence, the CPA DDs (section A.3.) and monitoring report (section C.1) correctly mention that Multi-barrier UV and UltraFLO are fixed type systems and applicable on piped water.

The ER sheet, worksheet titled ‘MP4 sales database’, column Q ‘Source’ lists the primary water source as surface water, wells etc. besides piped water. The term “piped” water under this column has been used for the schools which receive water from City Council / Government / Municipal Water Connections.

	<p>In case of UltraFLO and multibarrier UV systems, it shall be noted that water is transported from primary water sources such as wells, surface water and boreholes through pipes to drinking water storage tanks in project schools. The Ultra-FLO, Multi-Barrier UV systems are installed on these pipes.</p> <p>In the absence of a pipeline connection to the drinking water storage tanks, UltraTABs are provided to the schools, which are designed for non-piped applications. An UltraTAB pack consists of 10 strips of 10 tablets each, wherein the tablets can be directly put in drinking water storage tank (@one tablet per 100L of water), thus, is feasible for un-piped applications. In case of UltraTAB, the schools which specify "Piped" as primary water source in column Q, indicate that although water is available via government piped network, but it is not connected with the drinking water storage tank(s). Thus, in such cases, the drinking water storage tank is un-piped making the school fit only for UltraTAB units.</p> <p>During the remote site visit conducted for the current issuance request, as well as, during the remote site-visit conducted for previous batches, it was clearly noted by the verification team that Multi-Barrier UV and UltraFLO have only been installed on pipeline connections, even when the primary water source is different from City Council / Government / Municipal water connection. Similarly, UltraTABs are administered only in un-piped applications even when the schools may have a piped connection (not connected to drinking water storage tank). For MultiBarrier UV systems, since no samples were checked during the Remote SV, it was confirmed based on the physical site visit done during last MP and manufacturer's specification/28/ that this type of unit can be fixed only on piped applications.</p> <p>Thus, all the systems have been implemented in line with the registered CPA DDs/2/.</p>
Findings	CL#06 was raised and resolved.
Conclusion	<p>a) The verification team is of the opinion that physical features of the CPA have been implemented in accordance with the registered CPA-DDs /2/.</p> <p>b) No specific monitoring equipment had to be installed according to the monitoring plan.</p> <p>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-DDs /2/.</p> <p>d) The CPA was also found to be completely operational in line with the CPA-DDs /2/. However, CME has sought a temporary deviation during the current MP for the systems that were fully consumed/ discontinued prior to the start of the current monitoring period. Also, temporary deviation has been sought as CME was unable to conduct the monitoring for the Multi-Barrier UV systems (Please refer to section E.3.2.1. of the report for details).</p> <p>e) The information provided in the relevant sections of the monitoring report appropriately describes the implementation and operational status of the PoA</p>

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

Following temporary deviations are proposed as part of this verification:

1. The CME has sought a temporary deviation during the current MP (i.e., 01/01/2020 to 21/03/2020) for the baseline emission calculation of Multi-Barrier UV systems as CME could not monitor the Multi-Barrier UV systems. Thus, conservatively, the CME has considered baseline emissions as 0 tCO₂e for all Multi-barrier UV systems. Please refer to PRC validation report/47/ for details.
2. The CME has sought a temporary deviation during the current MP (i.e., 01/01/2020 to 21/03/2020) for the project emission calculation of Multi-Barrier UV systems. Thus, conservatively, the CME has considered applying maximum values of project emissions from all Multi-Barrier UV systems due to consumption of electricity. Please refer to PRC validation report/47/ for details.

3. The CME has sought a temporary deviation during the current MP (i.e. 01/01/2020 to 21/03/2020) for the systems in the database which were fully consumed/discontinued before the start of the current monitoring period and have not received subsequent supplies (operational days=0) have not been considered for sampling and monitoring. Thus, conservatively, the CME has considered 0 ERs for all such systems. Please refer to PRC validation report/47/ for details.

E.3.2.2. Corrections

Corrections were identified in CPA 9948-0005 to CPA 9948-0013. The corrections were approved on 02/05/2019.

<https://cdm.unfccc.int/PRCContainer/DB/prcp52130222/view>

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

Changes to the project design were identified in CPA 9948-0005 to CPA 9948-0013. The changes were approved on 02/05/2019.

<https://cdm.unfccc.int/PRCContainer/DB/prcp52130222/view>

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 °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, (°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 °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 °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, Ry_i, 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 (for day schools) and 3.5 (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.

Emission Factor for electricity generation for source j in year y, EF_{EL,j,y}, tCO₂/MWh

Means of verification	The value of the parameter is fixed at the time of validation and the value is
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	sourced from the "Tool 05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, Version 1.0"/39/. The value considered is 1.3 tCO ₂ /MWh and was 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.

Average technical transmission and distribution losses for providing electricity to source j in year, TDL_{j,y}, Fraction

Means of verification	The value of the parameter is fixed at the time of validation and the value is sourced from the "Tool 05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, Version 1.0"/39/. The value considered is 20% which is a default value sourced from Tool 05 and was 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, QPW_y (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?	<p>The value applied is 66,464,313 litres¹⁶.</p> <p>The parameter is a calculated parameter determined through following equation:</p> $QPW_y = \sum (T_{y,i} \times N_{y,i} \times R_{y,i} \times 365 \times \text{Water Quality}_i \times \text{Operational Units}_i)$ <p>The formula is correct and in line to the applied methodology/6/, PoA DD/1/ and CPA DDs/2/.</p> <p>The installation for CPAs under the verification has been done between 01/04/2017-19/11/2019.</p> <p>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"</p> <p>Thus, for all the systems installed in Feb 2020, ERs will be claimed in March 2020.</p> <p>The end date of the monitoring period is 21/03/2020.</p>

¹⁶ For current monitoring period 01/01/2020-21/03/2020

		<p>It shall be noted that the equation stated above, sourced from PoA DD, accounts for 365 days of crediting in a year (or for the duration of the monitoring period in case of shorter monitoring periods). However, the schools don't operate for 365 days in a year. Therefore, the CME has determined operational school days in the monitoring period, as per the academic school calendar issued by "Ministry of Education, Nigeria"/50/ for ER calculations, (ER sheet, Tab MP4 school days/4/). For non-boarding schools, the weekend and school holidays (public holidays, mid-term and end term holidays) have been excluded as a conservative measure for consideration of operational school days. For boarding schools, weekends and short public holidays have been included but the CME has excluded mid-term and end term holidays because the boarding students/staff would still consume water during weekends and short public holidays.</p> <p>The verification team reviewed the Nigerian school academic calendars (2020-21 and 2019-20) issued by the Ministry of Education, Nigeria and found them to be presenting school opening and closure dates covering the entire monitoring period. The Verification team confirms that the calculation of school days in the ER sheet/4/ is correct, in accordance with the relevant academic calendars and results in conservative calculation of ERs.</p> <p>The ER sheet/4/ was checked to confirm that the formula has been applied correctly. The equation used for the calculation is correct and is sourced from paragraph 11 of the applied methodology /6/</p>
	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?	During the current monitoring period CME was unable to monitor the baseline emissions of Multi-UV Barrier System under CPA-9948-P1-0003-CP1. Thus, as this parameter has not been monitored for 01/01/2020 to 21/03/2020 as per the registered monitoring plan, temporary deviation has been proposed for the same in-line to para 228(b) i of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /47/ for details
Findings	CL#05 was raised and resolved. FAR#02 needs to be addressed in subsequent verifications.	
Conclusion	<p>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/.</p> <p>FAR#02 has been raised for subsequent monitoring periods to ensure that QPW_y is determined accounting the operational school days (excluding holidays) instead of duration of</p>	

the concerned monitoring period, as applicable.

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 institutions cook with wood on traditional three stone fire. Therefore, a value of efficiency of 0.10 for unimproved stove was applied.
	If applicable, has the reported data been cross-checked with other available data?	Yes. Sampled number of WPS (11) were surveyed. The head/deputy head 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
Findings	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
	CL#02 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 distributed in the monitoring report are as following: 6637 UltraFLO

		<p>738 UltraTAB</p> <p>273 Multi-Barrier UV</p> <p>The total number of systems reported in the monitoring report on which credits are being claimed are as following:</p> <p>2,253 UltraFLO</p> <p>0 UltraTAB</p> <p>0 Multi-Barrier UV</p> <p>The CME keeps purchase order/14/, delivery notes/21/ and details of each system on salesforce as checked by the verification team with the help of documents provided by CME.</p> <p>Each unit of Ultra FLO system has unique ID, which is listed in the database and has been claimed for ERs.</p> <p>For Ultra TAB system, the value of the parameter has been determined by considering each institution as a system. Therefore, for institutions with Ultra TAB, the number of tab systems is same as number of institutions.</p> <p>Again, each unit of for Multi-UV Barrier has a UID, each of which has been listed in the database.</p> <p>However, ERs for Multi-Barrier UV and UltraTAB are not being claimed.</p> <p>The total number of Ultra Tab and Multi UV systems was checked in the database. It was observed that there has been no distribution since the last verification/40/,/49/. Thus, no further evidence was sought to verify the total number of Ultra-tab and multi barrier UV systems used in the ER calculation.</p> <p>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.</p>
	If applicable, has the reported data been cross-checked with other available data?	Yes. Sampled number of WPS (11) were checked with the installation invoices/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?	<p>Few of the distributed systems were fully consumed / discontinued before the start of the current MP and did not receive additional supplies during the monitoring period. As a temporary deviation, no ERs are being claimed for this concerned monitoring period.</p> <p>Please refer to PRC validation report/47/ for details.</p>
Findings	CL#01, CL#06 and CAR#02 were 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/.
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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?	<p>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 count in boarding/non-boarding institutions.</p> <p>These numbers are mentioned for each institution in the sales database. Later the number is updated for all the institutions on the salesforce based on the updated number checked by the customer care support team of Impact Water. For the 11 WPS samples checked by the DOE during the remote audit survey, the same numbers were checked and found to be correct.</p> <p>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].</p> <p>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 308 person/technology.</p> <p>The parameter value is noted at the time of installation by the CME and as the number of student/staffs change over the time, the value gets updated 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/.</p> <p>As per the CPA DDs (9948-P1-0003, 9948-P1-0005-CP1 to 9948-P1-0013-CP1) page 15/2/, The value of $N_{y,i}$ is effectively the number of people in the institution services per system. 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.</p> <p>For the current monitoring, the value of the parameter was verified from the sales database /5/ and sales force database/48/. 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.</p>
	If applicable, has the reported data been	Yes. The values in the ER sheet /4/ were

	cross-checked with other available data?	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, 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?	<p>The CME conducted Aquagenx testing kits to monitor the E.Coli value for sampled WPS.</p> <p>The Head teachers/ Deputy Head teachers of the schools interviewed by the DOE during the remote survey confirmed that they were visited by monitoring team for the tests.</p> <p>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 four sampled schools. Hence, the applied value of 0.96 was found acceptable.</p>
	If applicable, has the reported data been cross-checked with other available data?	Photos of the tests /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 evidence /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	During the current monitoring period CME was unable to monitor the baseline emissions of Multi-UV Barrier System under CPA-9948-P1-0003-CP1. Thus, as this parameter has not been monitored for 01/01/2020 to 21/03/2020

	the CDM Project Standard?	as per the registered monitoring plan, temporary deviation has been proposed for the same in-line to para 228(b) i of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /47/ for details
Findings	CL#01 and CAR#01 were 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, Percentage

Means of verification	Criteria/Requirements	Assessment/Observations
	Measuring /Reading /Recording frequency	At least once per verification
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	<p>Yes. During the current MP and in all the previous monitored periods, the monitoring frequency followed is found to be adhering to the methodology requirements and the monitoring plan.</p> <p>Further, the verification team also assessed the PoA validation report CAR 07, page 80 of 106 which confirms that “atleast once per verification” is superseded by “biennial” and the methodology requirements prevails.</p> <p>However, to ensure that under no circumstances, the methodology requirement is compromised in future, FAR#01 has been raised to ensure that monitoring frequency of parameter “operational units”, shall be at least biennial, in line with monitoring methodology requirements.</p>
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	<p>The sampled systems were checked by the CME’s monitoring team to monitor the operational status of the WPS units installed/distributed in the institutions as checked from the monitoring survey forms/18/.</p> <p>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 remote audit survey that the monitoring team visits the school for the monitoring and the system is operational as reported in the monitoring result.</p> <p>Results presented in the ER sheet were checked with monitoring survey forms /18/ and remote audit survey visit video recordings.</p> <p>94.44% of WPS from the total systems visited by the CME representative during the monitoring survey were found to be operational.</p> <p>Thus, the applied value of 94.44% was found acceptable.</p>
	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 audit survey visit video recordings.

	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 evidence/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?	During the current monitoring period CME was unable to monitor the baseline emissions of Multi-UV Barrier System under CPA-9948-P1-0003-CP1. Thus, as this parameter has not been monitored for 01/01/2020 to 21/03/2020 as per the registered monitoring plan, temporary deviation has been proposed for the same in-line to para 228(b) i of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /47/ for details
Findings	CL#03 and CL#04 were raised and resolved. FAR#01 needs to be addressed in subsequent verifications.	
Conclusion	<p>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/.</p> <p>FAR#01 has been raised for subsequent monitoring periods to ensure that monitoring frequency for the parameter Operational Units_i is atleast, biennial, in line the with monitoring methodology requirements.</p>	

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?	<p>The parameter is determined by sourcing a default value from UNFCCC SSC WG 37th Meeting Report for Nigeria /26/ and multiplying it with the percentage of population using non-renewable woody biomass / fossil fuel.</p> <p>“AMS-I.E: Switch from Non Renewable Biomass for Thermal Applications by the User” version 5.0 /25/, page 2, states that $f_{NRB,y}$ can be established as non-renewable biomass using survey methods or government data or approved default country specific fraction of non-renewable woody biomass (f_{NRB}) values available on the CDM website /44/. Also, as per Clarification on monitoring the quantity of biomass and the fraction of non-renewable biomass under AMS-I.E. (submitted 17 Jun 11): SSC_543, the value of $f_{NRB,y}$ can be fixed ex ante at the beginning of each crediting period /45/.</p> <p>The CME, therefore, fixed the value of f_{NRB} for Nigeria through EB67 Annex 22 /32/ (extension SSC 37 Annex 14th, approved in EB68) /38/ as stated in the registered PoA-DD /1/ at page 69, 82, 100, and 115. However, the $f_{NRB,y}$ was listed as monitoring parameter to allow determination of a weighted average value in case a mixture of woody biomass and fossil fuels is used in</p>

	<p>the absence of the project activity in line with AMS III.AV. version 4.0, page 6 /6/.</p> <p>The PoA-DD version 7.0 (Section B.7.1.) /1/ states the $f_{NRB,y}$ as a calculated parameter which has a formula: $f_{NRB,y} = [\text{Default } f_{NRB} \text{ value}] * [\% \text{ of users using NRB}] + [1.0^{17}] * [\% \text{ of users using fossil fuels}]$</p> <p>The aforesaid formula only keeps the % of users (using NRB / fossil fuel) as a variable and considers f_{NRB} values as a constant (default for NRB and 1.0 for fossil fuel). Thus, the parameter is listed as monitoring parameter only because of the variability attributed to % users using a given baseline fuel type.</p> <p>Since the default value of f_{NRB} has been considered as a constant, the expiry of f_{NRB} value is deemed not applicable to the PoA and included CPAs. Besides, no other method to determine the value f_{NRB} is found listed under section B.7.1 of the registered PoA DD /1/.</p> <p>Additionally, the CME will not apply the updated value of f_{NRB} (i.e., if the host country DNA publish a new value) within this crediting period as it is bound by the requirement stated in the PoA DD (page 69, 82 and 100,115) /1/. This also confirms that only % of users is variable in the monitored parameter.</p> <p>The GACC report for Nigeria, 2016/16/ was reviewed to confirm that all the public institutions cook with wood on traditional three stone fire.</p> <p>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.</p> <p>The Default value of f_{NRB} from UNFCCC SSC WG 37th Meeting Report for Nigeria is prescribed by EB 67 annex 22 as per para 3 of SSC WG 37 annex 14. The value sourced from this document was valid till 18/09/2017.</p> <p>The PoA DD dated 18/04/2017 listed the parameter f_{NRB} as monitored parameter but had a provision added that only '% of users' need to be determined at CPA level. The value of the parameter was a default and already fixed at PoA level as checked from the registered PoA DD. The default value sourced from SSC WG 37 annex 14 was valid at the time it was mentioned in the PoA DD. The value doesn't require to be updated at the CPA level as per the registered PoA DD. Thus, the CPA DDs included on a date after 18/09/2017 used the value fixed in the registered PoA DD.</p> <p>Thus, in-line to para 346 of the VVS for PoA it was confirmed that CME has followed the registered monitoring plan stated in the registered PoA-DD /1/, included CPA-DDs /2/ and the applied methodology for</p>
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¹⁷ In line with page 6 of AMS III.AV. - If the displaced fuel is fossil fuel use a default value of 1.0

		monitoring the parameter.
	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 and CL#02 were 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?	<p>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.</p> <p>The GACC report for Nigeria, 2016/16/ was reviewed to confirm that the all institutions cook with wood on traditional three stone fire.</p> <p>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.</p> <p>The value has been determined is in line with the PoA DD/1/ and CPA DDs/2/.</p>
	If applicable, has the reported data been cross-checked with other available data?	Yes. The value sourced form AMS-I.E./25/ was also cross-checked from 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	NA

	ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	
Findings	CL#02 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 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?	<p>The institutions of sampled WPS were visited by the CME's monitoring team to check the existing public distribution network with safe drinking water as checked from the monitoring survey forms/18/. Results presented in the ER sheet were checked with monitoring survey forms /18/</p> <p>The DOE checked 11 samples from CME's samples to confirm the survey results. The Head teachers/ dy. Head teachers of the schools were interviewed by the DOE through the telephonic interview and confirmed that the monitoring team visited the school for the monitoring.</p> <p>All the institutions of sampled WPS confirmed that their school does not have access to public distribution network of safe drinking water and they source the water from borewell/rainwater.</p> <p>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.</p> <p>Thus, the applied value of 0 was found acceptable for the current verification.</p>
	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 DOE remote audit survey.
	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 test/surveys were interviewed during the remote audit survey and training evidence/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?	During the current monitoring period CME was unable to monitor the baseline emissions of Multi-UV Barrier System under CPA-9948-P1-0003-CP1. Thus, as this parameter has not been monitored for 01/01/2020 to 21/03/2020 as per the registered monitoring plan, temporary deviation has been proposed for the

		same in-line to para 228(b) i of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /47/ for details
Findings	CL#01 and 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/.	

Quantity of electricity consumed by the project electricity consumption source j in year y, EG_{PJ,j,y}, MWh/yr

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 rated power capacity of Multi-barrier UV WPS device was found to be 14 watts as checked from the WPS manufacturer specification for Multi-barrier UV/28/. Thus, taking an assumption the technology was considered operational for 24 hours a day and for full length of the monitoring period (81 days). Thus, the applied value of 0.027 was found to be conservative and acceptable for the current verification.
	If applicable, has the reported data been cross-checked with other available data?	Results presented in the ER sheet were checked with DOE remote survey end-users' interviews.
	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?	For CPA-3, temporary deviation has been sought. Please refer to section E.3.2.1 of the report for details and PRC validation report for the validation opinion/47/.
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/.	

E.3.4.3. Implementation of sampling plan

Means of verification	<p>The monitoring has been carried out in accordance with the monitoring plan contained in the revised approved PoA DD/1/ and CPA DDs/2/.</p> <p>Sampling Design/Target Population/Sampling Frame/Reliability:</p> <p>The CME has applied single sampling plan for all of the CPAs monitored under the current monitoring period. 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</p>
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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 systems¹⁸ installed / distributed in institutions and recorded in the project sales database. There are three different type of units under the CPAs. 6,637 UltraFLO units, 738 UltraTAB units and 273 Multi-barrier UV 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 Frame:

The systems that were fully consumed/discontinued before the start of monitoring period neither have received subsequent supplies during the monitoring period have not been considered for sampling and have been excluded from sampling frame. The systems considered for sampling consists of 2,263 UltraFLO units, and 265 Multi-barrier UV¹⁹ units. Thus, the sampling frame covers 2,263 UltraFLO units only.

Sampling Method and selection:

The CME has applied Stratified Random Sampling by dividing the population into the strata (UltraFLO). The samples have been chosen randomly from the 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:

- Water Quality- Aquagenx Tests
- Operational Units
- 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 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 Aqua-genix tests. Therefore, the implementation of surveys and tests was considered reliable. The surveyors also took photos of the school name, 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.

CPA Ref.No.	Technology	From	To
9948-P1-0005-CP1 to 9948-P1-0013-CP1	Water Purification systems	05/08/2020	14/08/2020

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" /19/ 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.

¹⁸ 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.

¹⁹ Multi Barrier UV systems were not monitored. Please refer section E.3.2.1 of this report.

	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.
Findings	CAR#01 was raised and resolved.
Conclusion	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/

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

Means of verification	No monitoring equipment are used 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	<p>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/:</p> $BE_y = QPW_y * SEC * f_{NRBy} * EF_{\text{projected_fossilfuel}} * 10^{-9}$ <p>Where,</p> <table border="1"> <tr> <td>BE_y</td><td>Baseline emissions during the year y in (tCO₂e)</td></tr> <tr> <td>QPW_y</td><td>Quantity of purified water in year y (Liters/yr).</td></tr> <tr> <td>SEC</td><td>Specific energy consumption required to boil one litre of water (kJ/L)</td></tr> <tr> <td>$f_{NRB,y}$</td><td>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.</td></tr> <tr> <td>$EF_{\text{projected_fossilfuel}}$</td><td>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</td></tr> </table> <p>Calculation for CPA 9948-P1-0005-CP1 (as an example):</p> $= 6,859,702 \times 3574.80 \times 0.93 \times 81.60 \times 10^{-9}$ $= 1,860 \text{ tCO}_2\text{e}$ <p>Specific energy consumption (SEC) i.e. energy required to boil one litre of water is calculated as</p> $SEC = [WH * (T_r - T_i) + 0.01 * WHE] / n_{wb}$	BE_y	Baseline emissions during the year y in (tCO ₂ e)	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.	$EF_{\text{projected_fossilfuel}}$	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
BE_y	Baseline emissions during the year y in (tCO ₂ e)										
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.										
$EF_{\text{projected_fossilfuel}}$	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										

Where

WH	Specific heat of water (kJ/L °C)
T _f	Final temperature (°C)
T _i	Initial temperature of water (°C)
WHE	Latent heat of water evaporation (kJ/L)
n _{wb}	Efficiency of water boiling system being replaced (fraction)

Calculation for CPA 9948-P1-0005-CP1:

$$SEC = [4.186 \times (100 - 20) + 0.01 \times 2260] / 0.10$$

$$SEC = 3574.80 \text{ kJ/L.}$$

And QPW_y is calculated through following equation:

$$QPW_y = \sum (T_{y,i} \times N_{y,i} \times R_{y,i} \times 365 \times \text{Water Quality}_i \times \text{Operational Units}_i)$$

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 February 2020, ERs will be claimed in March 2020. The end date of the monitoring period is 21/03/2020.

The applicable formula is:

$$QPW_y = \sum (T_{y,i} \times N_{y,i} \times R_{y,i} \times 52 \times \text{Water Quality}_i \times \text{Operational Units}_i) \text{ for CPA 9948-P1-0005-CP1}$$

Where:

QPW_y: Quantity of purified water for drinking for all technologies type i in year y (Liters)

T_{y,i}: Total distributed water purification system

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)

Operational Units_i: Percent of the monitoring period in which the units are in use

Number of days: The equation in CPA DDs uses 365 days (or the duration of monitoring period in case of less than annual monitoring period) for calculating QPW_y. However, instead of using the duration of monitoring period, the CME has conservatively used operational school days determined as per academic school calendar issued by "Ministry of Education, Nigeria"/50/. For non-boarding schools, the weekends and school holidays (public holidays, mid-term and end term holidays) have been excluded as a conservative measure and for boarding schools, weekends and public holidays have been included but the CME has excluded mid-term and end term holidays because the boarding students/staff would still consume water during weekends and short public holidays as checked in the ER sheet /4/.

Residual capacity from previous MP, considered in the ER sheet:

The DOE checked the ER sheet/4/ and confirmed that the values of 'residual capacity from previous MP' in MP4 ER spreadsheet (tab: "MP4 Sales data, column AB) were verified to be correctly calculated after cross-checking with MP3 ER calculator, the verification team further confirms the following:

In the revised MP4 ER Calculator, the MP3 Sales database has been added (Tab: 'MP3 Sales data – reference only') by the CME. The verification team has verified that information in the revised ER Calculator, Tab: 'MP3 Sales data – reference only' is 100% consistent with the tab: 'Sales database' in the MP3, ER calculator available at UN webpage/49/.

Further, in the revised ER calculator, tab 'MP4 Sales database' column AB, the residual

capacity from previous MP has been found to be correctly linked with 'MP3 Sales data – reference only', column AL, thus establishing complete traceability.

The verification team has independently checked MP3 ER calculator from PoA page (9948-MP3-IRP5) and cross-verified the information in the revised ER Calculator, Tab: 'MP3 Sales data – reference only' and found it to be consistent.

In the revised ER calculator, 'MP4 sales database', column AB, for all systems newly installed, the 'residual capacity from previous MP' is also found to be correctly specified as "new installation, not applicable".

Thus, 'residual capacity from previous MP' is confirmed to be calculated correctly in column AB of MP4 Sales database for all schools.

Subsequent supplies:

The total subsequent supplies to any school during the monitoring period are depicted under column AC of the worksheet titled "MP4 sales database". If the residual capacity is high and sufficient for the concerned monitoring period, then no new supplies are required to be sent to the schools.

The schools which have '0' residual capacity (see under column AB, MP4 sales database/4/) from previous MP along with 0 subsequent supplies (see under column AC, MP4 sales database/4/), were verified to have 0 crediting school days (column AO), thus substantiating that no ERs have been claimed for such cases (see column AP, MP4 sales database/4/).

For other systems the operational days have been calculated accounting initial / residual capacity and subsequent supplies as applicable.

The verification team has verified all corresponding calculations and found them accurate and correct. Thus, it was confirmed that the CME has followed the implementation plan stated in the CPA DDs and claimed ERs only for the systems that are rendering clean water during the current monitoring period by virtue of their residual capacity from previous MP and/or subsequent supplies and/or initial installation capacity, as applicable.

Lifetime of Ultra FLO and Ultra Tab units in ER sheet/4/:

The verification team further confirmed that Multi-Barrier UV lifetime is 7 years and UltraFLO/UltraTAB expiry is 5 years/28/. In the CPAs covered in the verification, the first WPS system was installed in April 2019 in Nigeria, thus no device will expire before the end of the current monitoring period.

Other Determinants

The continuous running end date was merely a determinant to check compliance with the registered monitoring plan requirement and is not linked with lifetime of the installed devices. The same has been removed by the CME from the revised ER sheet to avoid any confusion.

The revised ER sheet/4/ tab, 'MP4 Sales Database' ensures that $(N_{y,i} * R_{y,i})$ * operational school days in the monitoring period, do not exceed the available treatment capacity for any unit (column AH). It also confirms that the total consumed capacity (column AM) remains lower of these two in all cases. This is a better approach.

The total consumed capacity during the monitoring period (column AM), residual capacity at the end of MP (column AN) and credited operational school days (column AO) have been correctly calculated.

The verification team has checked all determinants (column AH:AP) and confirms them to be correctly and accurately calculated and conservative with respect to ER calculations.

The verification team has checked all determinants (column AH:AP) and confirms them to be correctly and accurately calculated and conservative with respect to ER calculations.

From the review of the MR and the Baseline Emission calculations provided in the ER Sheet, the aggregate baseline emissions come out to be 18,027 tCO₂e. The calculations for all the

	CPAs 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/. For CPA 9948-P1-0003-CP1 temporary deviation has been sought/47/. The achieved emission reductions in the current monitoring period thus are confirmed to be conservative, accurate and credible. All the parameters are assessed in detail under section E.3.4. of this report
Findings	CAR#04 was raised and resolved.
Conclusion	The verification team confirms that <ul style="list-style-type: none"> 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. The project emissions for type 3 CPAs were found to be calculated as follows: $PE_y = T_{y,i} \times EC_{PJ,j,y} \times EF_{EL,j,y} \times (1 + TDL_{j,y})$ For CPA 9948-P1-0003-CP1, $PE_y = 265 \times 0.027 \times 1.3 \times (1 + 0.20)$ $= 12 \text{ tCO}_2\text{e}$
Findings	None.
Conclusion	The project emissions are not applicable for Type 2 CPAs but have been considered for Type 3 CPAs as applicable. 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 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%) The verification team has checked that the calculation for other CPAs (9948-P1-0005-CP1 to 9948-P1-0013-CP1) have also been done in the worksheet 'eRs Summary' /4/ in the same manner. The calculations for all the CPAs (9948-P1-0003-CP1, 9948-P1-0005-CP1 to 9948-P1-0003-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/. The cumulative verified value of Leakage for all the CPAs is 905 tCO ₂ e. 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	<p>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/.</p> <p>The verification team confirms that from the remote survey where all the evidence and records that validated the stated figures were checked and found acceptable.</p>
Findings	No findings were raised.
Conclusion	<p>The verification team confirms that</p> <p>a) The complete data was available and is duly reported;</p> <p>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);</p> <p>c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed;</p> <p>d) The total number of ERs achieved (on account of water purifiers installation/distribution) during the current monitoring period were 17,110 tCO₂e.</p>

Title and UNFCCC reference number of the CPA	Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e)	Project emissions or actual net GHG removals by sinks (tCO ₂ e)	Leakage (tCO ₂ e)	GHG emission reductions or net GHG removals by sinks (tCO ₂ e)		
				Amount achieved before 1 January 2013	Amount achieved from 1 January 2013	Amount achieved in the entire monitoring period
9948-P1-0003-CP1	0	12	0	0	-12	-12
9948-P1-0005-CP1	1,860	0	94	0	1,766	1,766
9948-P1-0006-CP1	1,068	0	54	0	1,014	1,014
9948-P1-0007-CP1	2,603	0	131	0	2,472	2,472
9948-P1-0008-CP1	1,679	0	84	0	1,595	1,595
9948-P1-0009-CP1	1,899	0	95	0	1,804	1,804
9948-P1-0010-CP1	1,537	0	77	0	1,460	1,460
9948-P1-0011-CP1	2,671	0	134	0	2,537	2,537
9948-P1-0012-CP1	2,640	0	132	0	2,508	2,508
9948-P1-0013-CP1	2,070	0	104	0	1,966	1,966
Total	18,027	12	905	0	17,110	17,110

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

Means of verification	<p>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 01/01/2020-21/03/2020 (including both days) amount to 17,110 tCO₂.</p> <p>Verified and certified emission reductions as per commitment period:</p>
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	Commitment period	Amount
	Upto 31/12/2012 (1 st commitment period)	0 tCO ₂ e
	From 01/01/2013	17,110 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-P1-0003-CP1	-12	5,647
9948-P1-0005-CP1	1,766	13,243
9948-P1-0006-CP1	1,014	13,243
9948-P1-0007-CP1	2,472	13,243
9948-P1-0008-CP1	1,595	13,243
9948-P1-0009-CP1	1,804	13,243
9948-P1-0010-CP1	1,460	13,243
9948-P1-0011-CP1	2,537	13,243
9948-P1-0012-CP1	2,508	13,243
9948-P1-0013-CP1	1,966	13,243
Total	17,110	124,834

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 in the CPAs compared to that envisaged in the CPA-DDs/2/. 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 above 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 not 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 4 th 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 fourth independent verification of the emission reductions for the registered CDM PoA 9948 “Impact Carbon Global Safe Water Programme of Activities (PoA)” for the fourth monitoring period **01/01/2020-21/03/2020** (both days included) as reported in the Monitoring Report (final) Version 3.0 dated 15/04/2021 /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 3.0 dated 15/04/2021 and corresponding ER sheets for the monitoring period **01/01/2020-21/03/2020** (including both days) amount as 17,110 tCO₂e. 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 **01/01/2020-21/03/2020** (MP 04) are fairly stated in the Monitoring Report (final) Version 3.0 dated 15/04/2021.

ESPL, based on outcome of verification activities, certify in writing that, during the monitoring period **01/01/2020-21/03/2020** (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 **17,110 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
CH ₄	Methane
CL	Clarification Request
CME	Coordinating and Managing Entity
CO ₂	Carbon di oxide
CPA	Component Project Activity
CPAI	CPA implementer
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
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 ₂ e	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 Carbon	Registered PoA-DD Revised Approved PoA-DD (Version 6.1) Revised Approved PoA-DD Version 7.0)	Dated:24/03/2014 Dated: 15/02/2017 Dated: 18/04/2017	CME
2	Impact Carbon	Registered CPA-DD-03 Registered CPA-DD-05 Registered CPA-DD-06 Registered CPA-DD-07 Registered CPA-DD-08 Registered CPA-DD-09 Registered CPA-DD-10 Registered CPA-DD-11 Registered CPA-DD-12 Registered CPA-DD-13	Version 1.3, Dated: 17/02/2017 Version 5, Dated: 22/03/2019	Other
3	Carbon check India Pvt Ltd.	CPA Inclusion Report (9948-P1-0003-CP1, 9948-P1-0005-CP1 to 9948-P1-0013-CP1)	Version 3, Dated: 06/03/2017, Version 2, Dated: 22/09/2017	Other
4	Impact Carbon	ER sheet (Version 3.0)	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 3.0, Dated 15/04/2021	CME
14	Impact Carbon	Purchase Orders	Various	CME
15	Impact Carbon	Agreement between CME and CPA Implementer	Dated: 09/06/2017	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 survey forms + water quality test (Scanned and filled)	Various (November 2019-December 2019)	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	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 37 th 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	Medentech (technology supplier for UltraFLO and UltraTAB) Rotex (technology supplier for Multi-Barrier UV)	<ul style="list-style-type: none"> a. Technical specification confirming capacity / expiry of UltraFlo issued by Medentech b. Technical specification confirming capacity / expiry of UltraTAB issued by Medentech c. Photographs of UltraTAB strip and UltraTAB pack for the UltraTAB treatment capacity d. UltraFLO Installation Manual (specifying inlet port size, pressure rating etc.) e. UltraFLO dimension declaration by CME f. Photographs of UltraFlo cartridge and UltraTAB pack for the expiry of the UltraFlo and UltraTAB respectively g. Installation Logs for UltraFLO confirming piped applications. <ul style="list-style-type: none"> a. Multi-Barrier UV - Technical Specification from Supplier (Rotek) for UV systems confirming treatment capacity and other parameters (inlet port size, pressure rating, wattage etc.) b. Multi-Barrier UV - Lifespan confirmation from Supplier (Rotek) c. Photographs of Multi barrier UV systems d. Installation Logs for Multi-Barrier UV confirming piped applications. 	-	CME
29	Impact	Evaluating household water	https://www.who.int/water_sanitation_health/emergencies/WHO TN 10 Hygiene promotion in emergencies.pdf?ua=1	CME

	Carbon	treatment options: Health based targets and microbiological performance specifications" (WHO 2011)	alth/publications/2011/evaluating_water_treatment.pdf	
30	Impact Carbon	Aquagenx Testing Kit specifications Photos of Aquagenix test results	-	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 request form	28/10/2020	CME
35	Impact Carbon	Emission Reduction Purchase Agreement	2016-2020	CME
36	Impact Carbon	Water Quality test Photographs	-	CME
37	Impact Carbon	Complaint Log (Sample)	-	CME
38	Impact Carbon	Remote Survey Files Selected Sample Videos, Interview video of the school representative	05/11/2020	CME
39	UNFCCC	Tool 05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation	Version 1.0	Others
40	ESPL	Verification report for MP 3	Version 3.0	Other
41	UNFCCC	EB 106 Meeting report	-	Other
42	UNFCCC	EB announcement https://cdm.unfccc.int/newsroom/latestnews/releases/2020/01_041_index.html	23/06/2020	Other
43	New York times	https://www.nytimes.com/interactive/2020/world/asia/india-coronavirus-cases.html	-	Other
44	Worldometer	Status on Novel Coronavirus Cases in India URL: https://www.worldometers.info/coronavirus/country/india/	Dated 21/01/2021	Other
45	UNFCCC	EB-108 Meeting report Link: https://cdm.unfccc.int/filestorage/X/B/L/XBL3H024J87AVRZP19YUO6IGEDSMQT/eb108%20meeting%20report.pdf?t=OE98cW5hMXJvfDC4g05i0cKrSB7AoSVcati0	-	Others
46	UNFCCC	EB-106 Meeting report	-	Others
47	ESPL	PRC Validation opinion	Version 3.0 Dated 22/04/2021	Others
48	Impact Carbon	Sales force database	-	CME
49	CME	ER sheet for MP3 https://cdm.unfccc.int/PoAIs	-	Other

		suance/iss_db/poais170588077/view		
50	Federal Ministry of Education , Nigeria	Academic school calendars	Calendar for 2020-21 Calendar 2019-2020	CME

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

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

FAR ID	01	Section no.	Date : 22/03/2021
Description of FAR			
DOE involved in subsequent verifications shall ensure that monitoring frequency of parameter “operational units” is atleast, biennial, in line the with monitoring methodology requirements			
Project participant response			Date : DD/MM/YYYY
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Documentation provided by project participant			
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DOE assessment			Date: DD/MM/YYYY
The FAR was raised on 22/03/2021 against the Request for Review feedback from UNFCCC for MP3. The MP4 request for issuance was already published prior to the issuance of this FAR.			
Now, pertaining to RfR questions received in MP4, these FARs are already found appropriately addressed in the revised project documents. Please refer to closure assessment of CL ID 04 below.			

FAR ID	01	Section no.	Date : 22/03/2021
Description of FAR			
DOE involved in subsequent verifications shall ensure that the parameter QPW y is determined accounting the operational school days (excluding holidays) instead of duration of the concerned monitoring period, as applicable.			
Project participant response			Date : DD/MM/YYYY
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Documentation provided by project participant			
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DOE assessment			Date: DD/MM/YYYY
The FAR was raised on 22/03/2021 against the Request for Review feedback from UNFCCC for MP3. The MP4 request for issuance was already published prior to this issuance of this FAR.			
Now, pertaining to RfR questions received in MP4, these FARs are already found appropriately addressed in the revised project documents. Please refer to closure assessment of CL ID 05 below.			

Table 2. CL from this verification

CL ID	01	Section no.	E.3.4.2	Date : 11/11/2020
Description of CL				
The registered CPA-DDS requires that the water quality will be tested as per paragraph 2(b) of AMS III.AV ver. 4 (i.e. Laboratory test report and/or official notifications (e.g. from national authority on health)). However, the monitoring report shows that Aquagenx testing kits were used to determine the water quality. The CME shall elaborate how it has followed the registered monitoring plan in the included CPA-DDs				
Project participant response				Date : 19/01/2021
The CPA-DD (CPA05 for instance) on page 3 states the following: “The application of technologies distributed under the CPA achieve compliance with “Interim or higher” performance target as per “Evaluating household water treatment options: Health based targets and microbiological performance specifications” (WHO 2011) or a comparable national standard or guideline, per				

the methodology AMS-III.AV Version 4. All technologies that are going to be distributed under this CPA, will be lab tested to ensure they adhere to these guidelines.”

This has also been made an eligibility criterion (# 7, page 32 of CPA-DD) for inclusion of a technology in the CPA which states the following:

Eligibility criterion - Required condition	Supporting evidence for inclusion	Description of this CPA in relation to the criterion and supporting evidence
The water purification technology/equipment must achieve compliance with either: a) A relevant national standard or b) The interim performance targets as per “Evaluating household water treatment options: Health based targets and microbiological performance specifications” (WHO, 2011)	Verifiable evidence: – Laboratory test report and/or official notifications (e.g. from national authority on health). – Technical specifications document(s)	The water purification technology/equipment are in compliance with the following: (b) The interim performance targets as per “Evaluating household water treatment options: Health based targets and microbiological performance specifications” (WHO, 2011) Supporting Evidence: – Technical specifications document(s)

Thus, the project technology (Multi-barrier UV, Ultra Flow) needs to demonstrate that they comply with WHO, 2011 interim performance targets as per aforesaid.

This has already been confirmed via the technical specifications listed in CPA-DD wherein Log 2 reduction is achieved by Chlorination systems (as mentioned in CPA 05 CPA-DD on page 5) and Log 4 reduction is achieved by Ultraviolet disinfection systems (as mentioned in CPA 03 CPA-DD on page 3). Thus, the technology’s compliance with interim measures has already been demonstrated.

For ex-post water quality monitoring, the CPA-DD refers to the following:

“As per the World Health Organizations Guidelines²⁰ it is more cost-effective and feasible to monitor indicator organisms such as E.coli. Monitoring of proxies such as E. Coli, faecal coliform counts, chlorine levels may be used to assess water quality. CPA implementer shall be responsible for conducting testing. Enumerators will be trained on proper testing procedures and the appropriate testing technology will be used. CPA implementer shall be responsible for conducting testing”.

The CME has used Aquagenx Compartment Based Test (CBT) E.Coli / Total Coliform (ECTC) testing kits to monitor E.Coli as the indicator organism to test the quality of water. Aquagenx CBT ECTC testing Kits are used extensively across the globe in low resource areas. The Aquagenx Test is very effective testing method in terms of flexibility wrt transportation, for cases involving institutional and community engagement. The test kits detect and quantify E.Coli in 100 mL samples.

The water quality assessment using Aquagenx CBT ECTC testing kit follows a standard testing procedure. Each kit includes a sample collection Whirl-Pak Thio-bag and a powder growth medium pack. The powder growth medium has a glucose substrate called X-Gluc. When E. coli metabolize this substrate in Aquagenx’s growth medium, the color of the water turns blue, indicating the presence of E. coli.

The Aquagenx CBT ECTC is a laboratory-based test with provisions for sample collection in the field directly. Given the project systems are installed in institutions, thus, the water quality sample collection can only be done in the field. The portable water sample collection bags provisioned in Aquagenx CBT ECTC testing kit, renders it as a preferred and viable option for testing water quality for project devices installed in institutions and schools under the PoA.

The following standard sample collection procedure is followed:

1. At the time of sample collection in the field - the Whirl-Pak Thio-bag is labeled with the name of the institution, date and time of sample collection and the unique SF ID for that institution.
2. After labelling the bag, it is filled with 100 ml of water from the project system being monitored.
3. The powder growth medium is added to the Whirl-Pak Thio bag. The Whirl-Pak seal is rolled down

²⁰ WHO 'Guidelines for Drinking-water Quality, Fourth Edition Page 41.

and the Thio-bag is closed shut. This ensures that the sample collections remain free from any external contamination.

4. The powder medium is dissolved by gently swirling the bag.

The sealed Thio bag is then incubated in the in-house lab in the Impact Water's office. The incubation is an ambient temperature incubation for 48 hours. The incubation for 48 hours ensures that even the trace presence of E.Coli gets detected in the water sample collected. The bags are incubated in controlled environment in the lab to prevent contamination and health hazard in the Impact Water's office.

After the incubation of 48 hours the results of the water quality test are read by the qualified lab technician. A blue/green color indicates presence of E.Coli in water sample. After the test is completed, chlorine tablets are added in the Thio bag and stranded for 30 minutes to ensure decontamination. The decontaminated water sample is then discharged in the in-house lab itself.

Thus, the water sample collection and testing have been conducted by trained staff with extensive prior experience of water quality testing using Aquagenx CBT ECTC testing kits. The same was cross verified by the Verification Team via interviews with the water quality testing staff wrt testing protocol, process of sample collection, testing procedure followed, test results assessment etc. The Verification Team also reviewed photographic evidence of water quality samples and test results to confirm the accuracy to results reported by the CME.

For details, refer the testing protocol is available at the following link:

<https://www.aquagenx.com/wp-content/uploads/2020/05/PA-CBT-ECTC-Instructions-DrinkingWater-May2020.pdf>

The use of Aquagenx CBT ECTC testing kit for determining water quality is therefore in line with the registered CPA-DDs as well as monitoring methodology. The tests have been conducted by trained staff with extensive prior experience of water quality testing.

Further, various studies conducted across many locations and environments around the world by academic institutions, national government agencies, international NGOs and United Nations agencies confirm that, the Aquagenx test a Compartment Bag Test (CBT) gives results comparable with more complicated, expensive and less portable tests conducted otherwise.

A paper published in "The American Journal of Tropical Medicine and Hygiene, Volume 96, Issue 4, 5 Apr 2017, p. 970 – 975²¹" states that:

....., and one sample using membrane filtration (MF) was analyzed by reference laboratories. There were no statistically significant differences in E. coli concentrations between the field and laboratory CBT results, or when compared with MF results. These results suggest that the CBT for E. coli is an effective method to quantify fecal bacteria in household drinking water. The CBT can be incorporated into DHS and other national household surveys as a direct measure of drinking water safety based on microbial quality to better document access to safe drinking water.

Thus, the testing technology deployed by the CME/CPAI is deemed accurate, credible and reliable.

Documentation provided by project participant

N/A

DOE assessment

Date: 21/01/2021

The applied methodology requires the water quality to monitored following para 2(b) of the applied methodology.

As per paragraph 2(b) of the applied methodology:

"It shall be demonstrated based on laboratory testing or official notifications (for example notifications from the national authority on health) that the application of the project technology/equipment achieves compliance either with: (i) at a minimum the performance target as per "Evaluating household water treatment options: Health based targets and microbiological performance specifications" (WHO, 2011); or (ii) an applicable national standard or guideline"

²¹ <http://www.ajtmh.org/content/journals/10.4269/ajtmh.15-0717>

As responded by CME above, they have used Aquagenx Compartment Based Test (CBT) E.Coli / Total Coliform (ECTC) testing kits to monitor E.Coli as the indicator organism to test the quality of water. The CME has also explained clearly that the test with its protocol (<https://www.aquagenx.com/wp-content/uploads/2020/05/PA-CBT-ECTC-Instructions-DrinkingWater-May2020.pdf>) qualifies as laboratory test and meets the compliance required by applied methodology.

The monitoring team was also interviewed during the remote audit, during which they confirmed the entire process they follow for collecting each sample, handling the sample, reading results etc. and also confirmed that they have received training before conducting the test.

Thus, the results from the Aquagenx tests conducted by the monitoring team were found to be reliable and meeting the conditions of the applied methodology.

The CL stands closed.

CL ID	02	Section no.	E.3.4.2.	Date : 11/11/2020
Description of CL				
For the parameters $f_{NRB,y}$, η_{wb} , and $EF_{projected_fossilfuel}$, Section B.5.2 (a) (i) mentions that the parameters will be monitored based on the default value multiplied with the national, regional data or survey. The default values are mentioned as f_{NRB} being 0.93 from UNFCCC SSC WG 37 th Meeting Report for Nigeria, η_{wb} being 0.1, and $EF_{projected_fossilfuel}$ 81.60 tCO ₂ /TJ. This data is combined with the national data, a report titled "The Truth About Cooking Landscape Analysis, Nigeria", 2016 by GACC. PP is requested to clarify the validity of a 2016 study being the most recent data.				
Project participant response				Date : 19/01/2021
The parameter $f_{NRB,y}$, η_{wb} , and $EF_{projected_fossilfuel}$ are monitoring parameters. The parameters have been determined as follows:				
<ul style="list-style-type: none"> The parameter $f_{NRB,y}$, is determined using "UNFCCC SSC WG 37th Meeting Report for Nigeria, an extension of EB 67 annex 22" default values for f_{NRB} for LDCs and SIDS, combined with survey, national, or regional data to determine the % of users using given fuel type (biomass / fossil fuels) as per the registered PoA-DD. The parameter η_{wb}, is determined using "Methodology AMS.III.AV - Version 4" default values combined with survey, national, or regional data to determine the % of users using given cooking technology (Unimproved biomass burning stove/ Other biomass burning stove/ Fossil fuel stove) as per the registered PoA-DD. The parameter $EF_{projected_fossilfuel}$, is determined using "AMS-I.E. as referenced by AMS-III.AV Version 4 for EF_{NRB} and IPCC default values for fossil fuels combined with survey, national, or regional data to determine the % of population using non-renewable / fossil fuel as per the registered PoA-DD. 				
The CME has used published data to determine the % of users using biomass/ fossil fuel, % of users using unimproved biomass burning stove/ other biomass burning stove/ Fossil fuel stove and % of population using non-renewable / fossil fuel.				
No more recent national data for schools in Nigeria, providing information on % of users using biomass/ fossil fuel, % of users using unimproved biomass burning stove/ other biomass burning stove/ Fossil fuel stove and % of population using non-renewable / fossil fuel is available hence the use of the aforesaid report for is deemed appropriate. Please note that these types of studies are time taking and usually occur after 5 years or more. Lastly, please refer the registered CPA-DD which provisions for use of values established in previous monitoring period in case more recent data is not available.				
Documentation provided by project participant				
N/A				
DOE assessment				Date: 21/01/2021
<ul style="list-style-type: none"> The parameter $f_{NRB,y}$ (fraction of non-renewable biomass), source of data i.e. "UNFCCC SSC WG 37th Meeting Report for Nigeria" mentioned in the MR (Page-23) is an extension of "EB 67 annex 22, as per para 3 of UNFCCC CDM-SSC WG 37th Meeting Report Annex 14"²². The SSCWG presented an information note giving default f_{NRB} values for various countries which was approved in EB67 as Annex 22 (refer EB meeting 67 meeting report, para 92). In EB 67, The EB further requested the secretariat, in consultation with the SSC WG, to continue to determine f_{NRB} factors for Parties with 10 or less 				

²² https://cdm.unfccc.int/Panels/ssc_wg/meetings/037/ssc_37_an14.pdf

registered CDM project activities as of 31 December 2010 and recommend to the Board default values for application in these countries (EB 67 meeting report, para 93). The source of data of parameter f_{NRB} , is rectified in MR and ER Sheet to be consistent with each other. The revised MR and ER Sheet are being submitted.

- For parameter nwb was found to be determined using the default value sourced from applied methodology AMS-III.A.V version 4.0 combined with the published data.
- For parameter $EF_{projected_fossilfuel}$, was found to be determined using "AMS-I.E. as referenced by AMS-III.AV Version 4 for EF_{NRB} and IPCC default values for fossil fuels combined with survey, national, or regional data to determine the % of population using non-renewable / fossil fuel. The approach followed was found to be in-line with the registered PoA-DD version 7.0.

The published data used by the CME for the schools in Nigeria while determining the % of users using biomass/ fossil fuel, % of users using unimproved biomass burning stove/ other biomass burning stove/ Fossil fuel stove and % of population using non-renewable / fossil fuel was the most recent data available as verified from the independent review of information. Thus, the clarification stated by CME was found to be acceptable.

Thus, the CL is closed.

CL ID	03	Section no.	E.3.4.2.	Date :	11/11/2020
Description of CL					
The CME shall provide clarification how it ensures the operation of the project activity and continuous availability of safe drinking water, considering that the monitoring method was based on survey questionnaire alone (e.g. the question "When was the last time, a supply of cartridges/tablets were received?") and no information is provided regarding the crosschecking of the monitored data against other sources such as quantity of chlorine/No. of cartridges used during this monitoring period					
Project participant response					Date : 19/01/2021
<p>Firstly, the monitoring methodology para 15 states: "Monitoring shall consist of checking of all appliances or a representative sample thereof, at least once every two years (biennial) to ensure that they are still operating or are replaced by an equivalent in service appliance as per the relevant sampling requirements of AMS-I.E".</p> <p>Para 16(b) of the methodology states: "The quantity of purified water in year y shall be derived from the capacity of the equipment established by manufacturers' specifications and the number of functional project appliances as per paragraph 15"</p> <p>Thus, the continuity of service (continuous availability of safe drinking water) is to be determined via ex-post sampling and if the project device is found functional during ex-post monitoring, the continuity of service is deemed being maintained over the entire monitoring period.</p> <p>However, during the ex-post monitoring, the CME has taken additional measures to ensure continuous availability of safe drinking water as follows:</p> <p>The monitoring survey form consists of the following questions:</p> <p>Question pertains to continuity/Maintenance:</p> <ul style="list-style-type: none"> • Has routine supply/maintenance been conducted for the IW System? (Yes/No). • When was the last time supply/maintenance was conducted? (DD-MMM-YYYY). <p>Question pertains to usage:</p> <ul style="list-style-type: none"> • Is the IW unit being used for water treatment? (Yes/No) • Presence of other water treatment technologies / devices in the institution <p>The question pertaining to continuity /maintenance is intended to ensure that the user is receiving regular supplies / maintenance which ensures system's continuity. The date of last supply / maintenance serve as an objective evidence to cross-verify regular supplies/ maintenance being received by the user at the time of survey.</p>					

Further the date of last supply / maintenance provides the surveyor an option to check if last delivery has reached the user and have been put in use. This is achieved by physically cross verifying the product ID mentioned in the last delivery note / installation log with the system found installed on site (TAB packs available in case of UltraTAB and cartridge installed in case of UltraFLO/UV). This also confirms that earlier supplies have been consumed, ensuring continuous availability of safe drinking water.

The questions related to usage confirms that the system is function as per para 16. Additionally, none of the monitored schools were found using any other form of water treatment technology / device. This further substantiates imperative use of project devices, given drinking water is a basic sustenance need, and continuity of use.

In addition to aforesaid the CME has the following system to ensure continuous availability of the safe drinking water in the institutions:

- At the time of installation/distribution of the water purification systems (WPS) in the institution, the CME train the institution staff on usage of the WPS to ensure that the project devices are put to use and any apprehension regarding their quality and safety is resolved.
- The CME Call Center in the country offices, regularly follow ups with the institution regarding operational status of the project system of their installed WPS as well as the expected date of next supply. The schools are supplied with reinforcements in time to ensure system's continuity.
- Additionally, the CME country office contact detail is available in the system Purchase Order and Delivery Notes available with institution and also pasted on the system tank or school wall in form of sticker. The institution can anytime call the CME office for the subsequent supply of the UltraTab pack or UltraFlo/UV cartridge if needed, or as and when required. It has been verified by the DoE during remote assessment that schools are aware of the phone number to contact in case of needing maintenance / supplies.
- Lastly, the subsequent supply of the UltraTab packs and UltraFlo/UV cartridges in the institution is recorded in the CME database management software (SalesForce). The information on each supply made during the monitoring period (product quantity and serial number) has been provided for each school as well as for each supply (refer ER calculator, worksheet "Sales database" column R: AA). The details of these supplies have also been cross verified against the delivery notes / installation records available at the CPAI office, by the DoE during remote assessment. Also, the DOE has cross verified the product ID reported in the last supply with the product ID found mentioned on the physical systems on site for sampled schools.

The above sales and monitoring provisions ensure as interrupted supply of safe drinking water in the institution.

Documentation provided by project participant

N/A

DOE assessment

Date: 21/01/2021

The continuous availability of safe drinking water is ensured by confirming the operational status of sampled systems and checking the provisions put in place by the CME other than the survey questionnaire.

During the survey, the CME checks that continuous supply of cartridge/tablets, through the questions stated above as 'Question pertaining to continuity/Maintenance' and also checks the operational status through 'Question pertaining to usage' stated above.

The questions pertaining to continuity/maintenance ensures that the institution is receiving continuous supplies and questions pertaining to usage confirms that those supplies are being used. Any institution reporting the product as being functional, cannot be out of supplies.

All the institution heads of "DOE sampled systems" were interviewed by the verification team to confirm that the product installed in the school was currently in operational condition and they have been receiving continuous supply of cartridge/tablets thus, getting continuous supply of safe drinking water.

Additionally, the DOE checked the provisions in place to ensure continuous supply of safe drinking water

- The institution head confirmed during the interview that staff from the institution have received adequate training on the usage of the installed WPS. They can detect if they are running out of supplies(cartridge/tablets) and accordingly contact the CME/CPAI for subsequent supplies to ensure continuous availability.
- The CME representatives interviewed during the remote audit confirmed that they have a Call Centre in the country offices which regularly takes follow up calls with the institutions regarding usage and headcount to gauge the expected date of next supply.

- The copies of Purchase Order and Delivery Notes and the presence of customer care number/email for supply / repair on the system's tank or school wall in form of sticker were checked to confirm that the CME country office contact detail is available to the institution staff and they can contact the CME in case they find any problem with the product or need additional tablets / cartridges. Moreover, during the remote survey calls, the institution heads confirmed to the verification team that they are aware about the contact number to which they can register their complain regarding the product or their request for supplies.
- The CME provided a detailed sales database which records the subsequent supplies with their product IDs for each institution, which is presented in the ER sheet (refer ER calculator, worksheet "Sales database" column R:AA). The CME has provided scanned copies of delivery notes available at the CPAI office to the verification team for cross verification of the subsequent supplies made to an institution. The verification team had checked it for the sampled institutions. The evidence reviewed confirmed the quantities of supplies mentioned in the ER sheet.

Thus, the verification team confirms that all the institutions (with systems claiming emission reductions) have received continuous supply and provide continuous safe drinking water during the monitoring period.

Thus, the CL stands closed

CL ID	04	Section no.	E.3.4.2.	Date : 11/11/2020
Description of CL				
The CPA-DDs indicate the monitoring frequency for the parameter "operational units" as "At least once per verification or biennially as per the monitoring requirements in the methodology". The applied methodology (AMS-III.AV. ver. 04, paragraph 15) requires "at least once every two years (biennial)". The CME shall provide further information on how the monitoring plan complies with the applied methodology.				
Project participant response				Date : 19/01/2021
As per the applied methodology AMS-III.AV version 04.0 <i>"Monitoring shall consist of checking of all appliances or a representative sample thereof, at least once every two years (biennial) to ensure that they are still operating or are replaced by an equivalent in service appliance as per the relevant sampling requirements of AMS-I.E"</i> .				
The monitoring frequency of "at least once every two years", is deemed the maximum duration over which the parameter must be monitored at least once.				
The term "per verification", on the other hand is provisioned to cover cases when the verification is being conducted for a monitoring period which is less than two years. For example, refer the following:				
MP#	Duration	Start date of Monitoring	Justification	
2	23 May 2017 – 22 May 2019	12-11-2019	--	
3	23 May 2019 – 31 Dec 2019	13- 01-2020	MP3 monitoring was conducted in less than 2 years since MP2 (MP3 monitoring done again in Jan 2020 despite MP2 monitoring done in May 2019)	
4	01 Jan 2020 – 21 Mar 2020	05-08-2020	MP4 monitoring was conducted in less than 2 years since MP3 (MP4 monitoring done again in Aug 2020 despite MP3 monitoring done in Jan 2020).	
This approach avoids application of values established in previous monitoring period (in above example, values determined in MP3), to the current monitoring period (MP4) without monitoring the parameter (because the monitoring frequency is once every two years). Thus, the monitoring frequency of "at least once per verification" applicable to shortened MPs results in yielding more representative and accurate results of monitoring parameter rather than applying the values established in the previous monitoring period.				
Further, the "biennial" monitoring frequency supersedes "per verification" and not the other way around. Thus, in case of a verification covering more than 2-year monitoring period, the PP shall need more than a singular monitoring event to ensure "at least biennial" monitoring frequency is met.				
Lastly, the monitoring period under concern as shown in table above still remains within the "biennial" monitoring frequency.				
Thus, the monitoring plan and the concerned monitoring report is compliant with the monitoring methodology.				
Documentation provided by project participant				
N/A				
DOE assessment				Date: 21/01/2021

The applied methodology AMS-III.A.V. version 4.0 prescribes the parameter to be monitored at least once every two years (biennial) to ensure that they are still operating or are replaced by an equivalent in service appliance.

The word 'atleast' in the required frequency atleast biennial does not refrain the CME to conduct the monitoring with a better frequency and a higher frequency (i.e. more than once in two years) is still in line with the requirement.

The CPA-DDs stating the monitoring frequency for the parameter "operational units" as "At least once per verification or biennially as per the monitoring requirements in the methodology" is still in line with the applied methodology AMS-III.A.V. version 4.0.

The CME has demonstrated in the table above that the parameter is monitored at a frequency higher than the minimum required frequency. The results from the sampling surveys conducted for every verification are deemed more accurate than following at-least biennial monitoring frequency. Thus, the approach was found to be in line with the applied methodology and was accepted by the verification team.

CL re-open.

UN issue#5

For the parameter "operational units", the monitoring frequency is indicated as "once per verification" in CPA-DDs, however the applied methodology (AMS-III.AV. ver. 04, paragraph 15) requires the monitoring frequency as "at least once every two years (biennial)". The CME shall explain how the monitoring plan complies with the applied methodology, particularly in case where the future verification occurs after two years.

Project participant response	Date : 15/04/2021
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CME would like to clarify that the term "at least" is deemed binding to both "once per verification" as well as "biennially as per the monitoring requirements in the methodology" and not to "once per verification" alone. Thus, under no circumstances, the monitoring frequency will extend beyond two years and shall remain compliant with the monitoring methodology requirement always. Further, please refer the PoA validation report, CAR 07, page 80 of 106 which states the following:

The PP revised the monitoring frequency to be "At least once per verification or biennially as per the monitoring requirements in the methodology" to ensure that the methodological requirements are met (at least biennial) and that each verification is based on relevant monitoring results.

Thus, this substantiates that "at least once per verification" was provisioned in the PoA-DD to prohibit the CME apply the value established in a given MP to the following MP (without monitoring it again) for cases where the combined length of two consecutive MPs is less than two years.

Please refer all previous monitoring periods for different batches where dedicated monitoring for each monitoring period has been conducted despite them being even less than one year duration. For example, the monitoring in MP3 was conducted in Jan-Feb 2020 and the monitoring in MP4 was conducted in Aug 2020 whereas combined duration of these two monitoring periods is less than one year.

Also, for the first monitoring period, although the monitoring period was longer than 2 years (30/05/2014 – 22/05/2017) and was covered under single verification, the CME did not claim any ERs for the period 30/05/2014 – 21/05/2015 and followed the "at least biennially" monitoring frequency to ensure that methodology prevails over such cases.

Hence, the CME affirms that in no case the methodology requirements with respect to monitoring frequency would be compromised.

Documentation provided by project participant
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DOE assessment	Date: 21/04/2021
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The applied methodology AMS-III.AV. version 4.0, para 15, states that "Monitoring shall consist of checking of all appliances or a representative sample thereof, at least once every two years (biennial) to ensure that they are still operating or are replaced by an equivalent in service appliance".

The CPA DDs mention under section B.5.1., that for the parameter 'Operational Units', the frequency is 'at least once per verification or biennially as per the monitoring requirements in the methodology'. For current

issuance request, the frequency required by the applied methodology has been met.

As explained by CME and confirmed by the verification team, in the all the previous monitored periods, the monitoring frequency followed is found to be adhering to the methodology requirements.

Further, the verification also assessed the PoA validation report CAR 07, page 80 of 106 which confirms that "atleast once per verification" is superseded by "biennial" and the methodology requirements prevails. Based on above, the monitoring frequency stated in the monitoring plan is deemed in compliance with the monitoring methodology.

However, to ensure that under no circumstances, the methodology requirement is compromised in future, FAR#01 has been raised to ensure that monitoring frequency of parameter "operational units", shall be at least biennial in line with monitoring methodology requirements. Thus, the CAR is closed.

CL ID	05	Section no.	E.3.4.2.	Date	11/11/2020
Description of CL					
The CME shall provide information how it considered application of 365 days as appropriate for the calculation of the total quantity of water purified during the year y, considering that the CPA-DDs indicate that the quantity of purified water is based on the "average population serviced/system" while the systems do not service the population during periods when population (i.e. the students) are on holidays and the CPA-DD for 9948-P1-0005-CP1 provide 250.6 days/year considering the school calendar..					
Project participant response					Date : 19/01/2021
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:					
<ol style="list-style-type: none"> I. 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 calculation formulae. II. Besides, the number of days of operation is neither an ex-ante parameter nor an ex-post monitoring parameter as per the monitoring methodology or the registered monitoring plan in the PoA-DD. III. 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). IV. 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 more 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. V. Lastly, the weighted average value if $R_{y,i} = 2.02$ which is much less than a default value of 3 ltrs per person per day given by AMS III.AV. version 8.0 that is also at 365 days of crediting. 					
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)					

<p>The CPA-DD for CPA 3 refers to 250.6 days per year for crediting, hence the ERs for CPA5 have been revised conservatively to calculate emission reductions for 250.6 days in year instead of 365 days. Please refer revised ER calculator (Refer Worksheet, "ERs summary", cell E6, where Number of days of crediting has been multiplied with a fraction of 250.6/365 to ensure that ERs equivalent to the service level mentioned in CPA-DD is being accounted. However, as for CPA 9948-P1-0003-CP1, no baseline emissions are being claimed for the monitoring period, hence no adjustment to ERs is required</p>	
<p>Documentation provided by project participant</p>	
<p>N/A</p>	
<p>DOE assessment</p>	<p>Date: 21/01/2021</p>
<p>The application of 365 days as the number of days of operation for the project units, was found to be acceptable because of following justifications provided.</p> <ol style="list-style-type: none"> 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, the 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 deemed 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" <p>CME has conservatively applied the no. of operational days for each CPA while determining the total quantity of purified water. For CPA-3 as clarified by CME 250.6 days per year are considered for crediting in-line to the CPA-DD. Thus, the ERs for CPA5 have been revised conservatively to calculate emission reductions for 250.6 days in year instead of 365 days as confirmed from the emission reduction sheet (ER summary Tab, Cell: E6) which clearly shows the crediting days are multiplied with the fraction of 250.6/365 to conservatively calculate the ERs.</p> <p>Hence, application of 365 days of crediting for a system is deemed appropriate and in line with applied methodology and registered PoA/CPA-DD.</p> <p>CL re-open.</p> <p>UN issue #2</p> <p>The CME shall provide information on how it is appropriate to apply the entire days, covered by the monitoring period when calculating parameter QPW_y (i.e. quantity of purified water for drinking during the year y), given the fact that the systems do not service the population (i.e. the students) during the school holidays/weekends.</p>	
<p>Project participant response</p>	<p>Date : 13/04/2021</p>
<p>The number of school days in ERs Summary tab, has been adjusted to correspond to only operational school days instead of complete duration of the monitoring period.</p> <p>As a conservative measure, now the school academic calendar, as issued by the Federal Ministry of Education, Nigeria has been used to determine the total available operational school days within the monitoring period weighted for non-boarding and boarding population for each school.</p> <p>Subsequently, the CME has considered weekdays (excluding weekends and public holidays) for non-boarding users and considered days (including weekends and short public holidays) for boarding users (as</p>	

boarding students/staff will consume water during weekends and short public holidays) for determining the school days for which WPS should be credited. Please refer column AV:BC in "MP4 Sales Database" tab of ER Calculator where the school calendar for the monitoring period, school holidays list and start date and end date of school term have been presented.

The QPW_y value (row8: ER Summary tab) has been calculated accordingly considering credited school days in the monitoring period (row 6: ERs Summary tab).

This results in reduction of emission reduction to 17,110 tCO₂e from 25,249 earlier.

Documentation provided by project participant

PoA 9948_MP4_MR4 Nigeria Norway 3 MR ver 3.0 15042021
PoA 9948_MP4_Norway 3 Nigeria ER Sheet_ver 3.0 15042021
Nigeria School Academic Calendar 2019_2020
Nigeria School Academic Calendar 2020_2021

DOE assessment

Date: 21/04/2021

In the applied methodology / registered PoA-DD/CPA-DDs, CPAs do not have provision to account for school holidays. However, based on the UN request for review question and rationale behind the same, the CME has revised the ER calculations to account ERs only for operational school days (refer tab: MP4 Sales Database) instead of the monitoring period days, based on published and objectively verifiable government data (Academic school calendar).

The school term duration and corresponding term holidays are found to be correctly calculated as per the submitted academic school calendars for the period 2019-2020 issued by Federal Ministry of Education, Nigeria. Further, the CME's approach of considering only weekdays and excluding all weekend days, holidays, mid-term / end term breaks for non-boarding schools is deemed appropriate. Also, the approach for boarding schools to include weekdays, weekends and short holidays but excluding mid-term, end-term breaks is deemed appropriate as boarding staff and students will be serviced by the WPS systems occur during weekends and short holidays.

The calculation approach/rationale of calculating operational school days has been discussed in CAR#02 below and is found appropriate, accurate and conservative. The revised achieved emission reductions in the current monitoring period have reduced since the last submission request, due to revised approach.

Moreover, FAR#02 has been raised to ensure that QPW_y is based on operational school days (discounting holidays), in future verifications.

Thus, CL is closed

CL ID	06	Section no.	E.2.1. and E.3.1.	Date :	02/04/2021
Description of CL					
UN issue#4					
<p>a) The registered PoA-DD and the included CPAs mention that the sales database will include information on the address and contact details (name and phone number if available) of the end user. However, no information is provided on the name of the user (institution) where the water purification systems have been implemented. The CME shall explain how the implementation and operation of the registered CDM PoA and the included CPAs in accordance with the description contained in the registered PoA-DD and included CPA-DDs.</p> <p>b) As per the CPA-DD-0006 (page 3), the technology to be distributed is mentioned as UV disinfection devices; however, the MR (page 15) and the VR (page 21) state that 845 number of UltraFlo devices were distributed. The CME shall explain how the implementation of this CPA is in compliance with the technology stated in the CPA-DD.</p>					
Project participant response					Date :
a) CME has submitted a master database having information related to the End user (institution) where the WPS have been implemented. The same was reviewed by the verification team as well as cross verified during the remote assessment. However due to privacy concerns, this information has not been submitted to CDM Executive Board. Thus, the PoA and the CPAs have been implemented in accordance with the description contained in the registered PoA-DD and included CPA-DDs.					15/04/2021

- b) A PRC (PRC-9948-003) has been approved on 02/05/2019 for CPA-0006. Accordingly, as per section A.3, page 4 of revised CPA-DD-0006, the technology to be distributed is mentioned as Chemical disinfection devices. Thus, the implementation of 845 number of UltraFlo devices distributed under CPA-DD-0006 and mentioned on the MR (page 15) and the VR (page 21) is deemed in line with the revised CPA-DD.

Documentation provided by project participant

PoA 9948_MP4_Norway 3 Nigeria Master Database_ver 1.0_19012021

DOE assessment**Date:** 21/04/2021

- a) The sales database in the ER sheet provided, was checked with the master Sales database including institution details. The school ID, address and product ID were confirmed to be correctly stated in the Sales database in the ER calculator. Further, the institutional details were then verified with the purchase order form for the sampled schools interviewed by the verification team during the remote survey and were found to be correct. Thus, the verification team confirms that the PoA and the CPAs have been implemented in accordance with the description contained in the registered PoA-DD and included CPA-DDs.
- b) Revised CPA DD version 5.0 dated 22/03/2019 (https://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/QBV3O0PTL7GRJDU1XA8ZWC5E69IM4S/view) was checked to confirm that all three technologies (Ukltr FLO, Ultra Tab, Multi barrier UV) are allowed to be distributed under CPA 9948-P1-0006-CP1.

Thus, the CL stands closed.

Table 3. CAR from this verification

CAR ID	01	Section no.	E.3.4.2.	Date	: 11/11/2020
Description of CAR					
<ol style="list-style-type: none"> 1. In the reliability check during sample size calculation (refer ER Sheet worksheet "Sample Size Calculation" cells D26, D47, & D67), the CME has compared margin of error obtained with the z-value (cell B7). PP is requested to revise the cells D26, D47, and D67 accordingly. 2. The value of operational units:(rate) is inconsistent between the MR(page 26) and the ER sheet(ER summary, cell O3). 					
Project participant response					Date : 19/01/2021
<ol style="list-style-type: none"> 1. The formula used for reliability check given in worksheet "Sample size calculation" cell D26, D47 and D67 have been rectified. 2. The value of water quality has been made consistent between ER Sheet and MR. 					
The revised ER Sheet and MR are being submitted.					
Documentation provided by project participant					
PoA 9948_MP4_MR4 Nigeria Norway 3 MR ver 2.0_19012021					
PoA 9948_MP4_Norway 3 Nigeria ER Sheet_ver 2.0_19012021					
DOE assessment					Date: 21/01/2021
<ol style="list-style-type: none"> 1. The formula has been corrected now. 2. The value has been made consistent. 					
Thus, the CAR stands closed.					

CAR ID	02	Section No.	E.3.4.2.	Date	: 21/01/2021
Description of CAR					
<ol style="list-style-type: none"> 1. Total ERs have changed since the publication. Please explain the reason. 2. For CPA-03 only multi-barrier UV were distributed and no Ultra Tab were distributed. PP shall clarify how is the deviation sought for non-monitoring for ultra tab units were found to be applicable for CPA-3. 3. On page 17 of the MR, CPA 004 is referred. During the current monitoring period CPA-04 is not considered only CPA-3 and CPA-5 to CPA-13 are considered. please address the inconsistency. 4. For parameter $T_{y,i}$, as per the ER summary sheet cell no.02, the total number of ERs are being claimed for 2,528 systems which includes CPA-03 systems as well. Please review and revise. 					

Project participant response	Date : 22/01/2021
<ol style="list-style-type: none"> 1. A calculation error was observed in submitted ER calculator (for QPW_y) after the MR was published for web-hosting. In the revised MR the calculation error was corrected which resulted in reduction in ERs from that specified in the MR published for webhosting. 2. The temporary deviation sought has been rectified. 3. The inconsistency has been addressed. 4. The 2,528-value arrived in cell no. O2 of ER summary sheet of ER calculator is the total no. of water purification systems (2263 Ultra Flo + 265 Multi-barrier UV) which are eligible for crediting in the monitoring period. There are 265 Multi-barrier UV systems which are eligible for crediting in the monitoring period but due to monitoring data not available, the baseline emission has been considered as 0 tCO₂e, in line with para 228(b)(i) of PS for PoA version 2.0. Hence, the total no. of ERs has only been claimed on 2,263 UltraFLO systems. Please note that Column O data is not being used for calculating ERs. It is only showing aggregates or averages. The ERs mentioned in Column O is total of ERs achieved in all the CPAs. <p>The revised MR and ER sheet are being submitted.</p>	
Documentation provided by project participant	
PoA 9948_MP4_MR4 Nigeria Norway 3 MR ver 2.1 _22012021	
PoA 9948_MP4_Norway 3 Nigeria ER Sheet_ver 2.0_19012021	
DOE assessment	Date: 25/01/2021
<ol style="list-style-type: none"> 1. For parameter QPW_y a calculation error was identified by the CME after the MR publication which was corrected in the revised MR version 2.1. The calculation error was rectified which led to the reduction in the ERs. 2. CME has now rectified the CPA for which the temporary deviation is sought under section C.3.1. of the revised MR v.2.1, 3. CME has now rectified the inconsistency in the CPA for which the temporary deviation is sought under section C.3.1. of the revised MR v.2.1 4. CME has claimed ERs for only ultra-flo systems as confirmed from the ER sheet version 2. <p>Thus, CAR#02 stands closed.</p>	

CAR ID	03	Section no.	E.3.4.2.	Date : 02/04/2021				
Description of CAR								
UN issue#1								
<p>The 10 CPAs (9948-0003 and 0005-0013), implemented in Nigeria, were included in year 2017 and applied the f_{NRB} value (0.93) established as per the provisions of Information note SSC WG Meeting 37, Annex 14. Further, the parameter is determined by sourcing the default value (0.93) from UNFCCC SSC WG 37th Meeting Report for Nigeria and multiplying it with the percentage of population using non-renewable woody biomass/fossil fuel. However, it is not clear how:</p> <ol style="list-style-type: none"> a) the f_{NRB} value used from SSC WG meeting 37, Annex 14, dated 20/07/2012 is valid for the 10 CPAs (9948-0003 and 0005-0013) included in year 2017 considering that f_{NRB} value has been determined as monitoring parameter in the PoA-DD (page 49) and CPA-DDs e.g. CPA-DD0005 (page 17); and, b) the shares of renewable and non-renewable woody biomass have been determined in line with paragraph 7 of AMS-I.E. ver. 5 as defined in the PoA-DD and the CPA-DD. 								
Project participant response				Date : 15/04/2021				
The CME wishes to draw the Verification Team's attention to the following:								
<ol style="list-style-type: none"> 1. Page 69 (for CPA type 2) and page 100 (for CPA type 3) of the registered PoA-DD dated 18/04/2017 states the following: <table border="1" data-bbox="172 1666 1369 1883"> <tr> <td>$f_{NRB,y}$</td> <td> <p>Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable.</p> <p>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.</p> </td> </tr> </table> 2. Also, page 82 (for CPA type 2) and page 115 (for CPA type 3) of the registered PoA-DD dated 18/04/2017 states the following in parameter table for $f_{NRB,y}$ <table border="1" data-bbox="199 1980 1396 2018"> <tr> <td>Data/Parameter</td> <td>$f_{NRB,y}$</td> </tr> </table> 					$f_{NRB,y}$	<p>Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable.</p> <p>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.</p>	Data/Parameter	$f_{NRB,y}$
$f_{NRB,y}$	<p>Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable.</p> <p>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.</p>							
Data/Parameter	$f_{NRB,y}$							

Source of data	<p>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.</p> <p>If the displaced fuel is fossil fuel use the default value of 1.0.</p> <p><u>If a mixture of woody biomass and fossil fuels is used in the absence of the project activity a weighted average value should be used, using surveys or national data.</u></p>
Measurement methods and procedures	<p>The type of baseline fuel(s) used by target population will be determined via survey, national, or regional data.</p> <p>Parameter will be determined using the default values from EB67 Annex 22 for woody biomass and from the methodology for fossil fuels:</p> <p>If a mixture of woody biomass and fossil fuels is used in the absence of the project activity a weighted average value shall be applied, calculated through the following formula:</p> $f_{NRB,y} = [\text{Default } f_{NRB} \text{ value}] * [\% \text{ of users using NRB}] + [1.0] * [\% \text{ of users using fossil fuels}]$

a) Thus, from the aforesaid it is confirmed that the registered PoA-DD and its monitoring plan mandate the CME to use the default value of f_{NRB} as approved by EB67, Annex 22 (or it's extension thereof²³) and the continuous or at least biennial monitoring, as per PoA-DD, only requires monitoring the % of users using NRB and % of users using fossil fuels to update the value of f_{NRB} . The default value of f_{NRB} stated in the PoA-DD (EB67, annex 22) can only be changed at the time of renewal of the PoA and will be valid for the CPA included subsequently. Thus, in line with registered PoA/CPA-DD, in the monitoring report, the percentage of users using non-renewable biomass and percentage of users using fossil fuel in Nigeria has been updated as the per national data and a weighted average value has been applied to determine $f_{NRB,y}$. Thus, no change in the MR is deemed required, given it is fully compliant with registered PoA-DD with respect to parameter f_{NRB} .

b) Paragraph 19 of AMS-I.E., ver. 5, applicable specifically to PoA, states the following:

"19. The following further conditions apply for the value of fraction of non-renewable (f_{NRB}) applied in a component project activity (CPA) of a POA. The choice between (a) conduct own studies to determine the local f_{NRB} value and then apply those values in the CPAs; and (b) use default national values approved by the Board; shall be made ex ante. A switch from national value i.e. choice (b) to sub-national values i.e. choice (a) is permitted, under the condition that the selected approach is consistently applied to all CPAs."

Page 69 (for CPA type 2) and page 100 (for CPA type 3) of the registered PoA-DD dated 18/04/2017, thus, in line with option (b) of para 19 of AMS I.E. states the following:

"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"

Thus, Default value of f_{NRB} from UNFCCC SSC WG 37th Meeting Report for Nigeria which is an extension of EB 67 annex 22 as per para 3 of SSC WG 37 annex 14 and approved in EB 68 (para 106) has been combined with national data (The Truth About Cooking Landscape Analysis, Nigeria, 2016 by GACC) for % population using non-renewable biomass / fossil fuel.

Documentation provided by project participant	
DOE assessment	Date: 21/04/2021
<p>The Default value of f_{NRB} from UNFCCC SSC WG 37th Meeting Report for Nigeria is prescribed by EB 67 annex 22 as per para 3 of SSC WG 37 annex 14. The value sourced from this document was valid till 18/09/2017.</p> <p>The PoA DD dated 18/04/2017 listed the parameter f_{NRB} as monitored parameter but had a provision added</p>	

²³ https://cdm.unfccc.int/Panels/ssc_wg/meetings/037/ssc_37_an14.pdf (Extension of EB 67 annex 22 as per para 3 of SSC WG 37 annex 14).

that only '% of users' need to be determined at CPA level. The value of the parameter was a default and already fixed at PoA level as checked from the registered PoA DD. The default value sourced from SSC WG 37 annex 14 was valid at the time it was mentioned in the PoA DD. The value doesn't require to be updated at the CPA level as per the registered PoA DD. Thus, the CPA DDs included on a date after 18/09/2017 used the value fixed in the registered PoA DD.

Thus, the CAR stands closed.

CAR ID	04	Section no.	E.3.6.1.	Date : 02/04/2021
Description of CAR				
UN issue#3				
<p>The continuous availability of safe drinking water and the subsequent supplies are reported in the emission reduction spreadsheet. However, it is observed in the emission reduction spreadsheet that:</p> <ul style="list-style-type: none"> a) The CPA-DDs (section A.3) indicate that one tablet (UltraTab) treats 100 Liters, whereas the emission reduction spreadsheet (Tab "assumptions" cell D8) indicates that water purification capacity of one unit of UltraTab as 10,000 Liters; b) The assumed capacity of one unit of Multi-barrier UV purifier in tab "Assumptions" is stated as 4,088,232 Liters water and the parameter refers to the CPA-DDs, whereas such value for the UV purifier could not be traced back in the respective CPA-DD; c) The system continuous running end date (Tab "sales database" column AK) is indicated as year 2034 or later (e.g. cell 'AI64' of tab 'Sales Database'), which is beyond the device lifespan as described (i.e. 5-to-7 years) in page 15 of the monitoring report. d) It is not clear what was supplied in case of UltraTab under columns 'E' and 'AB' (Tab "sales database") e.g. whether UltraTab tablets are supplied or any device/water tank is provided to the institution. 				
Project participant response				Date : 15/04/2021
<ul style="list-style-type: none"> a) As per table present on page 4 of section A.3 of latest version of CPAs 05 to 13 CPA-DDs, capacity of 1 tablet of UltraTab has been mentioned as 100L/Tablet whereas under capacity/lifespan of UltraTAB pack has been specified as 10,000 L/5 years expiry. Please note that one pack of UltraTAB contains 10 strips of 10 tablets each. Hence the total pack capacity is 10,000L (= 10 strips * 10 tablets * 100L). This has also been stated in footnote number 25 of the CPA-DD. Thus, the value stated in the emission reduction spreadsheet (Tab "assumptions" cell D8) is in line with the section A.3 and footnote 25 of the CPA-DDs. The technical specification documents have also been cross verified by the verification Team as listed in the verification report (Appendix 3, item /28/). b) The capacity of 4,088,232 L/unit (for Multi-barrier UV water) is sourced from Manufacturer technical specification document. The CME accepts oversight in ER spreadsheet assumption tab where the reference for the Multi-Barrier UV system capacity is mentioned as CPA-DD. The ER sheet has been revised to correct the same. Revised ER sheet is being submitted. c) The "system's continuous running end date" is not depicting the lifetime/lifespan of the device. It is merely a determinant to check the compliance with the following registered monitoring plan requirement: <p style="text-align: center;">$(N_{y,i} * R_{y,i})$ should not exceed the maximum output capacity of the system installed.</p> <p>The ER sheet tab, 'MP4 sales database' has been revised to determine the aforesaid in a better manner (refer column AM:AN). The revised functionality in the ER model ensures that $(N_{y,i} * R_{y,i})$ * operational school days in the monitoring period, does not exceed the available treatment capacity for any school and the total consumed capacity (column AM) is lower of the two as a conservative measure. Please refer below:</p> <ol style="list-style-type: none"> 1. The treatment capacity of a unit (column AH) is the sum of residual capacity from previous MP, if any, (column AB) and the supplies made during the monitoring period (column AC). For newly installed systems, it has been calculated as system's initial installation capacity (assumptions D9:D11) and the supplies made during the monitoring period (column AC), if any. 2. The total consumption of drinking water per day per unit has been calculated (column AG) and represents $(N_{y,i} * R_{y,i})$ 3. The start date of the WPS crediting (column AJ) in the monitoring period is considered as the latest of start date of MP4 or first day of the next month of its installation (column F). 				

4. The end date of WPS crediting (column AK) in the monitoring period is earliest of the end date of the monitoring period or the system breakdown date (column AI), if any.
5. In case treatment capacity of a unit (column AH) is 0, no CERs are claimed (given column AJ and AK are "NA", and column AP is "No").
6. Subsequently, the total number of available operational school days (column AL), falling between the start date (column AJ) and end date (column AK) of crediting for a school, has been calculated weighted on the basis of boarding and non-boarding population (column L:O).
7. If a WPS unit has treatment capacity (column AH) less than the capacity required to run the entire available operational days in the monitoring period (i.e. $N_{y,i} * R_{y,i}$ * available operational days) the residual capacity at end of MP (column AN) is calculated as 0. Otherwise, the residual capacity is calculated as net of treatment capacity (column AH) and consumed capacity during the monitoring period (column AM).
8. Limited by the treatment capacity consumed during the monitoring period (column AM), the credited school days for each system is calculated (column AO). Hence, the credited school days (column AO) is always less than or equal to available operational school days (column AL) for a given school.

The above approach is deemed better as it removes the confusion related to "continuous running end date" as well as calculates residual capacity at the end of MP4, based on operational school days during the monitoring period instead of total duration of monitoring period.

In case of Multi Barrier UV the expiry is 7 years with the earliest project device being installed in April 2017 hence no device shall end its lifetime before the end of the concerned monitoring period ending 21 Mar 2020. Besides, the UV bulb can be replaced to further extend the device lifetime further after 7 years.

Similarly, in case of UltraFLO/UltraTAB, the expiry is 5 years with the earliest UltraFLO/UltraTAB device being installed in January 2018 hence no UltraFLO/UltraTAB device shall end its lifetime before the end of the concerned monitoring period ending 21 Mar 2020. Besides, every-time a school receives a new supply of UltraFLO/UltraTAB, the lifetime of the system is automatically deemed renewed, the supplies being a consumable..

- d) In Sales Database worksheet of ER Calculator, in column E, total no. of UltraTAB packs supplied to the institute for the first time has been given (at the time of initial PO signature and supplying the tanks/Cannister/buckets in which the TABs are to be administered. In column AC, on the other hand, total number of UltraTAB packs supplied to the institution during subsequent supplies in the current monitoring period has been specified. Please note that, no UltraTAB school has received subsequent supplies in the monitoring period has been specified.

Documentation provided by project participant

PoA 9948_MP4_MR4 Nigeria Norway 3 MR ver 3.0 15042021

PoA 9948_MP4_Norway 3 Nigeria ER Sheet_ver 3.0 15042021

DOE assessment

Date: 21/04/2021

ER spreadsheet:

- a) The registered CPA DDs mention that 100L of water is treated by one UltraTAB Tablet (section A.3 and footnote 25). This information was cross checked with the manufacturer's specification and found to be correct. The ER sheet mentions the UltraTab capacity as 10,000L. This capacity is deemed correct because one unit of Ultra Tab has 10 strips of 10 tablets each. Thus, 100 Tablets are provided to each school in one UltraTAB pack. The schools visited physically during the previous verification were found to have received UltraTAB packs with 10 strips of 10 tablets each. The number of UltraTAB packs received by a school were verified against the sales receipt / delivery note for schools sampled by CME during the monitoring period and were found to be correctly stated and hence accepted by the verification team. Thus, the UltraTAB capacity considered in the ER sheet is found to be correct.
- b) The capacity for Multi Barrier UV was verified against the manufacturer's specification as the capacity was not found mentioned in the CPA DD. The cross-verification against manufacturer's specification has already been reported on page 21 of the FVR and appendix 3 of FVR. The ER sheet (tab: "Assumptions", cell F11) has been revised to mention the correct reference for Multi barrier UV capacity. Thus, it was accepted by the verification team.
- c) The continuous running end date was merely a determinant to check compliance with the registered

monitoring plan requirement and is not linked with lifetime of the installed devices. The same has been removed by the CME from the revised ER sheet to avoid any confusion

The revised ER sheet/4/ tab, 'MP4 Sales Database' ensures that $(N_{y,i} * R_{y,i})$ * operational school days in the monitoring period, do not exceed the available treatment capacity for any unit (column AH). It also confirms that the total consumed capacity (column AM) remains lower of these two in all cases. The is a better approach.

The total consumed capacity during the monitoring period (column AM), residual capacity at the end of MP (column AN) and credited operational school days (column AO) have been correctly calculated.

The verification team has checked all determinants (column AH:AP) and confirms them to be correctly and accurately calculated and conservative with respect to ER calculations. The revised achieved emission reductions in the current monitoring period have reduced since the since the last submission request, thus are confirmed to be conservative, accurate and credible.

The calculations for all the CPAs 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 with the applied methodology/6/. The achieved emission reductions in the current monitoring period thus are confirmed to be conservative, accurate and credible.

- d) There is no other device involved in this type of water purification system. Column E and AD mention the number of packs/units any school has been provided. All the schools mentioning '1' under this column have received one pack which means 100 tablets. However, some schools have received more than one pack based on the requirement of the school. For e.g. School ID N1827005 mentions '12' under column E, means that it has received 12 packs of Ultra Tab i.e., 1200 tablets (12*100 tablet in each pack).

The values of tablet packs were checked against the sales receipt for DOE sampled schools and was accepted by the verification team. Thus, the value considered in the ER sheet was found to be correct.

Column AC on the other hand refers to additional subsequent UltraTAB packs supplied to schools during the monitoring period. For E.g. school with SF ID N1827889 received 45 UltraTAB packs during the monitoring period as specified in column AC.

The values of tablet packs received by a school were checked against the sales receipt/delivery note for schools sampled and monitored by the CME during the monitoring period and was found to be correctly stated in the ER sheet. Thus, the value considered in the ER sheet was found to be correct.

Thus, the CAR is closed.

Table 4. FAR from this verification

FAR ID	01	Section no.	E.3.4.2.	Date : 21/04/2021
Description of FAR				
DOE involved in subsequent verifications shall ensure that monitoring frequency of parameter “operational units” is atleast, biennial, in line the with monitoring methodology requirements.				
Project participant response				Date: DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				

FAR ID	02	Section no.	E.3.4.2.	Date : 21/04/2021
Description of FAR				
DOE involved in subsequent verifications shall ensure that the parameter QPW _y is determined accounting the operational school days instead of duration of the concerned monitoring period, as applicable.				
Project participant response				Date: DD/MM/YYYY
NA				

Documentation provided by project participant	
NA	
DOE assessment	Date: DD/MM/YYYY
NA	

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Document information

Version	Date	Description
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> Ensure consistency with version 02.0 of the “CDM validation and verification standard for 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.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: programme of activities, verifying and certifying		