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)	9948: Impact Carbon Global Safe Water Programme of Activities (PoA)	
Version number(s) of the PoA-DD(s) to which this report applies	7.0	
Version number of the verification and certification report	3	
Completion date of the verification and certification report	11/08/2020	
Monitoring period number and duration of this morning period	Monitoring Period Number: Second Monitoring Period: 23/05/2017-22/05/2019 (both days inclusive)	
Number and version number of the monitoring report to which this report applies	Version: 3 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	556,530 tCO_2e	
Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs covered in this report	218,545 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 PoA aims at distribution of the low carbon emissions water purification technologies to households, communities and institutions in Rwanda, Nigeria, Kenya and Uganda. Thus, PoA through the dissemination of these technologies aims to address the issue of lack of access to safe drinking water.

In absence of the PoA, boiling water using fossil fuels / non-renewable woody biomass would have been the means of availing safe drinking water. The Water Purification Systems (WPS) provides safe drinking water without the use of non-renewable biomass/ fossil fuel, thus leading to a 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 23/05/2017 to 22/05/2019 (inclusive of both days) are 218,545 tCO_2e.

Scope of verification:

The verification is an independent and objective review, of ex-post determination of the monitored reductions in GHG emissions, by the DOE. The verification includes the implementation and operation of the PoA as set out in the revised accepted PoA-DD & CPA-DDs viz., 9948-P1-0003-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 Low greenhouse gas emitting safe drinking water production systems/6/ applied in the PoA-DD & CPA-DDs/1,2/

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

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

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

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

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

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

Verification Process:

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

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

b) Completeness check of Monitoring Report

c) Publication of Monitoring Report at UNFCCC website

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

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

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

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

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

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

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

Verification Conclusion:

Based on the outcome of the verification process of the registered/revised accepted PoA **"**Impact Carbon Global Safe Water Programme of Activities (PoA)**"** and its 10 CPAs (**9948-P1-0003-CP1,9948-P1-0005-CP1 to 9948-P1-0013-CP1**) for the monitoring period **23/05/2017 – 22/05/2019** (including both dates) we confirm that the implementation of referenced registered/revised accepted PoA and CPAs is complying with applicable CDM rules and regulations as stated in the Monitoring Report (final) **Ver 3, dated 10/08/2020** /13/. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodologies AMS-III.AV. ver.4 Low greenhouse gas emitting safe drinking water production systems/6/ and the monitoring plan contained in the revised accepted PoA-DD/1/.

Earthood Services Private Limited is able to certify that the emission reductions from the registered CDM PoA UN#9948 "Impact Carbon Global Safe Water Programme of Activities (PoA)" in Nigeria during the period **23/05/2017 – 22/05/2019** (including both days) amount to **218,545** tCO_2e. Therefore, this is being submitted for request for issuance, as per UNFCCC procedures

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team members

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection*	Interview(s)	Verification findings
1.	Team Leader	IR	Mahala	Deepika	Central Office	Y	N	Y	Y
2.	Verifier	IR	Vatsa	Vaishali	Central Office	Y	N	Y	Y
3.	Technical Expert	IR	Mahala	Deepika	Central Office	Y	N	Y	Y
4.	Methodology Expert	IR	Mahala	Deepika	Central Office	Y	N	Y	Y
5.	Local Expert	IR	Luka	Kumden	Central Office	Y	N	N**	Y

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

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

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical Reviewer	IR	Gautam	Ashok	Central Office
2,	TA to TR	IR	Gautam	Ashok	Central Office
3.	Approver	IR	Singh	Kaviraj	Central Office

SECTION C. Application of materiality in conducting the verification

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions, or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Observational error by monitoring survey staff of CME/CPA implementer while recording the responses of users in relation to survey parameters	High	10 CPAs are being verified for the first time and there may be lack of experience. The survey is conducted for representative samples of population, which may impact the population significantly. Surveyors may be unsupervised at the site.	Verification team randomly selected the samples from CME surveyed sampled WPS. The recorded survey forms by CME were checked with DOE Remote Audit Survey observations. The verification team 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 (tCO2e)/year	500,000 or more	300,001 to 499,999	300,000 or less		
Materiality Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

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

Particulars / Monitoring Report	MR Version (Public)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO2e) in this monitoring period	219,411	218,545*
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						
For water purifier						
QPW_y	Annual or at least biennial	10 (calculated parameter for each CPA)	10(100%)	There were errors in calculation which have been corrected (10).	All the errors have been corrected*	No extrapolation is required as 100% values checked and corrected.

n_{WB}	Continuously	1	1	None	NA	NA
Tyi	Continuous	6,634 UltaFLO 737 UltraTAB 260 Multi-UV Barrier (7,631)	6,634 UltaFLO 737 UltraTAB 260 Multi-UV Barrier Sales database/5/ was checked for the information. 11 WPS systems were checked during remote audit survey for cross check.	None	NA	NA
Nyi	Continuous	6,227	Entire sales database was checked for the information.	None	NA	NA
Water quality (WQ)	Annually	69	11 (based on acceptance sampling)	None	NA	NA
Operational $Units_i$	At least once per verification	73	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	69	11 (based on acceptance sampling)	None	NA	NA
$EG_{PJ,j,y}$	Annually	1	1	None	NA	NA

*The ERs mentioned in MR (public) and the ER sheet submitted were found to be different. A calculation error was identified by the CME in the ER calculator (for QPWy) after the MR was published at UNFCCC. CAR#01 was raised and resolved.

Based on the above table it can be confirmed that the actual individual and aggregated material error is determined for the registered PoA as per CDM VVS for PoA/09/. The applicable threshold for materiality in accordance with CDM PoA VVS Version 2 para 308(d)/9/ is 5%.

SECTION D. Means of verification

D.1. Desk/document review

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

a) A review of data and information provided for its completeness.

b) A review of registered monitoring plan, monitoring methodologies including applicable tools, standards, and the applicable applied standardized baselines.

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

D.2. On-site inspection[1]

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

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

Mandatory Site-visit

The site-visit for the current verification was mandatory as there were ten CPAs being verified for the first time in-line to para 321 of VVS for PoA Version 2.0 /9/.

Planned Site-Visit

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

Issue with the postponement of Site-visit:

The on-site audit assessment for this verification could not be postponed as the cases of coronavirus started rising suddenly with a very high number of death rates in many countries/44/. The Indian government also foresaw the same situation to happen in India. The lockdown was imposed across the country. By each passing day it was not clear whether the lockdown would get relaxed or extended. Delaying the site visit would lead to delayed issuance of the CERs. The CME relies upon the CER revenue generated from the project for the working capital of the project. It was clarified by the CME that along with the impact on the working capital of the project, the delay might also cause ERPA/35/ being cancelled. In light of the argument and evidence (CME Mail /34/) made available by the CME a clarification for the exemption of the onsite visit was sought from CDM EB.

Exemption by CDM EB

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

Alternative means applied

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

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

1. Photographic evidences of the water quality testing kits /30/, installed WPS with unique product IDs/27/, Monitoring Survey (filled) Forms/18/.

2. Complaint Log (Scanned Sample) /37/

3. Monitoring personnel certificates/20/

4. Review of Other Documentary evidences (ER sheet/4/, Sample Size Calculation sheet, Monitoring Data sheet)

5. Videos of the 11 selected samples of WPS showing the WPS installed along with the basic information related to the installation (Purchase order/14/, Delivery Notes/21/) and the interview of the respective school representative.

D.3. Interviews*[2]

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Brown	Julie	Impact Carbon	31/03/2020-01/04/2020	Sampling Surveys	Deepika Mahala, Vaishali Vatsa
2.	Neville	Tim	Impact Water	31/03/2020-01/04/2020	Implementation	Deepika Mahala, Vaishali Vatsa
3.	Akinyemi	Zacch	Impact Water Nigeria	31/03/2020-01/04/2020	Implementation, Sales records	Deepika Mahala, Vaishali Vatsa
4.	Obunaya	Samuel	Impact Water Nigeria	31/03/2020-01/04/2020	Database management	Deepika Mahala, Vaishali Vatsa
5.	Huelsenbeck	Mark	Impact Water Nigeria	31/03/2020-01/04/2020	Monitoring surveys	Deepika Mahala, Vaishali Vatsa
6.	Lohia	Rohit	Climate Secure Services India Private Limited	31/03/2020-01/04/2020	Monitoring Report, Sampling methodology, ER calculations	Deepika Mahala, Vaishali Vatsa
7.	-	Nihar	Climate Secure Services India Private Limited	31/03/2020-01/04/2020	ER calculation and Sampling	Deepika Mahala, Vaishali Vatsa
8.	-	Olaoye	R&B School (Proprietor)	31/03/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
9.	-	Bamigbade	LS Model Nursery and Primary School (Head of Maintenance)	31/03/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
10.	-	Dickson	TNA JUMAK INTERNATIONAL SCHOOLS (School Head)	31/03/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
11.	-	Olatunji	CHILD & WORLD MISSION SCHOOL (School Head)	31/03/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
12.	Adewale	Adeleke	Damayol School	01/04/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
13.	-	Uzodima	Festherland Schools	01/04/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
14.	Beatrice O	Oyetunji	A.T.C DEMONSTRATION SCHOOL 'B'	01/04/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa

[2] Interviewed were conducted via Skype Call

15.	Akanke	Hammed	N.U.D SCHOOL 'A' (Head teacher)	01/04/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
16.	Ajunwa	Victor	WISDOM ROYAL IMPACT COLLEGE (Vice-Principal)	01/04/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
17.	-	Oyeniyi	Thy Will Schools (Proprietor)	01/04/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa
18.	-	Suleman	San Memorial High School (Proprietor)	01/04/2020	DOE Remote Audit Survey	Deepika Mahala, Vaishali Vatsa

D.4. Sampling approach

CME Sampling approach

For the purpose of sampling, CME has followed the CDM guidelines for Sampling and surveys for CDM project activities and programmes of activities version 4.0/31/ and Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 8/19/ which is in-line with the revised accepted PoA DD/1/. The CME has applied Stratified Random Sampling at PoA level for different monitoring parameters as per validated revised accepted/registered PoA DD /1/and registered CPA DDs/2/. 95/10 confidence precision was applied by CME in the sampling which is appropriate as per the single sampling covering 10 CPAs. Thus, CPA wide single sampling plan was used by the CME. The CME applied stratified random sampling at the unit level, giving an equal chance of selection to each unit covered under the CPAs. In the case of institutions having multiple systems (UltraFlo / Multi Barrier UV especially), the system with the unique product ID randomly picked using online random number generator was monitored by CME.

DOE Sampling approach

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

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

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

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

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

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

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

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

Sample Size:

CPA Ref No.	AQL	UQL	Producer Risk	Consumer Risk	Sample Size; Min	Acceptance No.
9948-P1-0003-CP1, 9948-P1-0005 to 9948-P1-0013-CP1	0.5%	20%	10%	10%	11	0

The verification team selected random samples from CME's sampled units to check the acceptability (or otherwise) of the monitoring data for each such record with CME's sample records, and determine if the CME's sample records met the requirements.

The distribution breakup from sales database is as follows:

Type of WPS	No. of units
Ultra FLO	6,634
Ultra Tab	737
Multi-Barrier UV	260

Since, the distribution ratio between the three categories is 6:2:1, the DOE's sample size of 11 units was also divided in a similar ratio. These 11 samples were chosen randomly (using website www.randomizer.org) out of total of 73 CME's monitored samples (as part of monitoring survey). As per plan, 11 systems (WPS) were required and DOE surveyed 8 samples of Ultra FLO type, 2 samples of Ultra Tab type and 1 sample of Multi-UV barrier 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	CL#02	-	-
Remaining forward action requests from validation and/or previous verifications	-	-	-
CPAs considered for verification and covered in this report	-	-	-
Programme of activities	-	-	-
Compliance of the programme implementation with the registered PoA-DD	-	-	-
Implementation and operation of the management system	-	-	-
Post-registration changes	-	-	-
• Corrections	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents[3]	-	-	-
• Changes to the programme design	-	-	-
• Addition of CPA inclusion template	-	-	-
• Change of coordinating/managing entity	-	-	-
• Changes specific to afforestation and reforestation activities	-	-	-
Component project activities	-	-	-
Compliance of the CPA implementation with the included CPA design document	-	CAR#03	-
Post-registration changes	-	-	-
• Temporary deviations from registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	-	-	-
• Corrections	-	-	-
• Changes to the start date-of the crediting period	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized	-	-	-

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

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	-	CAR#01	-
• Data and parameters fixed ex ante or at renewal of crediting period	-	-	-
• Data and parameters monitored	CL#03	CAR#01, CAR#02	-
• Implementation of sampling plan	CL#04	CAR#02	-
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	CL#05	-	-
• 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	CL#01	CAR#01	-
• Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA	-	-	-
• Remarks on difference from estimated value in included CPA	-	-	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Others (please specify)	-	-	-
Total	05	03	00

SECTION E. Verification findings

E.1. General

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

Means of verification	The monitoring report form used is CDM-PoA-MR-FORM version 03.0/10/ which is an appropriate form and the latest version available at the time of verification/submission for request for issuance. All the sections of the aforesaid form were duly filled as per the guidelines and provided all the relevant details.
Findings	CL#02 was raised and resolved.
Conclusion	The final monitoring report /13/ is found to be in-line with the latest CDM-PoA-MR-form/10/ available and the instructions therein.

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

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

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

Title and UNFCCC reference number of the CPA included in the PoA as of the end of this monitoring period	Is the CPA considered for this verification? (yes/no)	The date when the CPA was included	Version of the PoA-DD	Confirmation that a request for issuance including the CPA has been published for the previous monitoring period (Y/N)
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 1, Version: 3.0, Ref No.:9948-P1-0001-CP1	No	01/05/2014	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 2, Version: 3.0, 9948-P1-0002-CP1	No	01/05/2014	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 3, Version: 1.3, 9948-P1-0003-CP1	Yes	08/05/2017	7.0	NA*[4]
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	NA*[4]
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 6, Version: 5.0, 9948-P1-0006-CP1	Yes	04/10/2017	7.0	NA*[4]
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 7, Version: 5.0, 9948-P1-0007-CP1	Yes	04/10/2017	7.0	NA*[4]
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 8, Version: 5.0, 9948-P1-0008-CP1	Yes	04/10/2017	7.0	NA*[4]
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 9, Version: 5.0, 9948-P1-0009-CP1	Yes	04/10/2017	7.0	NA*[4]
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 10, Version: 5.0, 9948-P1-0010-CP1	Yes	04/10/2017	7.0	NA*[4]
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 11, Version: 5.0, 9948-P1-0011-CP1	Yes	04/10/2017	7.0	NA*[4]

[4] This the first verification for the following CPAs under consideration for verification.

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 12, Version: 5.0, 9948-P1-0012-CP1	Yes	04/10/2017	7.0	NA*[4]
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 13, Version: 5.0, 9948-P1-0013-CP1	Yes	04/10/2017	7.0	NA*[4]
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 14, Version: 1.0, 9948-P1-0014-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 15, Version: 1.0, 9948-P1-0015-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 16, Version: 5.0, 9948-P1-0016-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 17, Version: 5.0, 9948-P1-0017-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 18, Version: 5.0, 9948-P1-0018-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 19, Version: 5.0, 9948-P1-0019-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 20, Version: 5.0, 9948-P1-0020-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 21, Version: 5.0, 9948-P1-0021-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 22, Version: 5.0, 9948-P1-0022-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 23, Version: 4.0, 9948-P1-0023-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 24, Version: 4.0, 9948-P1-0024-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 25, Version: 4.0, 9948-P1-0025-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 26, Version: 4.0, 9948-P1-0026-CP1	No	18/11/2018	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 27, Version: 4.0, 9948-P1-0027-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 28, Version: 4.0, 9948-P1-0028-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 29, Version: 4.0, 9948-P1-0029	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 30, Version: 4.0, 9948-P1-0030-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 31, Version: 4.0, 9948-P1-0031-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 32, Version: 4.0, 9948-P1-0032-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 33, Version: 4.0, 9948-P1-0033-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 34, Version: 4.0, 9948-P1-0034-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 35, Version: 4.0, 9948-P1-0035-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 36, Version: 4.0, 9948-P1-0036-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 37, Version: 4.0, 9948-P1-0037-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 38 supported by Republic of Korea, Version: 2.0, 9948-P1-0038-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 39 supported by Republic of Korea, Version: 2.0, 9948-P1-0039-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 40 supported by Republic of Korea, Version: 2.0, 9948-P1-0040-CP1	No	26/04/2019	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 41 supported by Republic of Korea, Version: 2.0, 9948-P1-0041-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 42 supported by Republic of Korea, Version: 2.0, 9948-P1-0042-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 43 supported by Republic of Korea, Version: 1.0, 9948-P1-0043-CP1	No	26/04/2019	7.0	NA[5]
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

[5] 9948-0043 to 9948-0077 are being verified for the first time therefore there is no verification history for these CPAs.

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 Korea, Version: 1.0, 9948-P1-0053-CP1	No	26/04/2019	7.0	NA
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): CPA 78 supported by Republic of Korea, Version: 1.0, 9948-P1-0078-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 79 supported by Republic of Korea, Version: 1.0, 9948-P1-0079-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 80 supported by Republic of Korea, Version: 1.0, 9948-P1-0080-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 81 supported by Republic of Korea, Version: 1.0, 9948-P1-0081-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 82 supported by Republic of Korea, Version: 1.0, 9948-P1-0082-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 83 supported by Republic of Korea, Version: 1.0, 9948-P1-0083-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 84 supported by Republic of Korea, Version: 1.0, 9948-P1-0084-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 85 supported by Republic of Korea, Version: 1.0, 9948-P1-0085-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 86 supported by Republic of Korea, Version: 1.0, 9948-P1-0086-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 87 supported by Republic of Korea, Version: 1.0, 9948-P1-0087-CP1	No	26/04/2019	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 88 supported by Republic of Korea, Version: 1.0, 9948-P1-0088-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 89 supported by Republic of Korea, Version: 1.0, 9948-P1-0089-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 90 supported by Republic of Korea, Version: 1.0, 9948-P1-0090-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 91 supported by Republic of Korea, Version: 1.0, 9948-P1-0091-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 92 supported by Republic of Korea, Version: 1.0, 9948-P1-0092-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 93 supported by Republic of Korea, Version: 1.0, 9948-P1-0093-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 94 supported by Republic of Korea, Version: 1.0, 9948-P1-0094-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 95 supported by Republic of Korea, Version: 1.0, 9948-P1-0095-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 96 supported by Republic of Korea, Version: 1.0, 9948-P1-0096-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 97 supported by Republic of Korea, Version: 1.0, 9948-P1-0097-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 98 supported by Republic of Korea, Version: 1.0, 9948-P1-0098-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 99 supported by Republic of Korea, Version: 1.0, 9948-P1-0099-CP1	No	26/04/2019	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 100 supported By Republic of Korea, Version: 1.0, 9948-P1-0100-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 101 supported By Republic of Korea, Version: 1.0, 9948-P1-0101-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 102 supported By Republic of Korea, Version: 1.0, 9948-P1-0102-CP1	No	26/04/2019	7.0	NA

E.2. Programme of activities

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

Means of verification

The PoA aims at disseminating water purification systems (WPS) technologies to target countries like Rwanda, Nigeria, Uganda, and Kenya for addressing the problem of safe drinking water. For this monitoring period, 9 CPA's of Type 2: Technologies for institutional water consumption, with no project emissions (i.e. from 9948-P1-0005-CP1 to 9948-P1-0013-CP1) and 1 CPA of Type 3: Technologies for institutional water consumption, with project emissions (9948-P1-0003-CP1) were covered under the MR. This monitoring period includes the implementation and monitoring 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/15/. Their roles and responsibilities are defined in the signed agreement.

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

CPAs covered in this MR involve dissemination of three types of water purification systems:

1. Ultra FLO
2. Ultra Tab
3. Multi-UV Barrier

Description	Ultra FLO	Ultra Tab	Multi-UV Barrier
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	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

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

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

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

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

The project location and coordinates shared by CME were verified using the "https://www.latlong.net/place/lagos-nigeria-2286.html" and found to be in-line with the registered PoA-DD/1/ and MR/13/.

Further, based on the review of sales database (presented in ER sheet)/4/, remote audit survey observations and interview conducted during the e-meeting, the verification team found that:

- The CPA(s) were implemented within the boundary of the PoA as described in the revised accepted PoA-DD/1/.
- The CME is same as that mentioned in the revised accepted PoA-DD/1/
- The implementation and operation of the project activity has been conducted in accordance with the description contained in the revised accepted PoA-DD/1/ and included CPA-DDs/2/.
- All physical features of the CPA proposed in the included CPA-DDs/2/ were in place
- The project participants/CPA implementer has operated the CPAs as per the included CPA DDs/2/.

A remote audit survey was conducted by the verification team; 11 WPS (8 Ultra FLO, 2 Ultra TAB and 1 Multi-barrier UV units) were surveyed. The uniqueness of the system was identified from UID written on the units (either on cartridges or on TAB box packs)/27/. Along with the unique ID the following details are also noted in the database:

a) Type of system (UltraFLO / UltraTAB)

b) Unique serial number of the units installed / distributed

c) Date of installation / distribution

d) Address and details of school and contact detail (if available) of representative

e) Type of School (Boarding / Non-boarding)

f) School population count (number of students / staff in boarding / non-boarding category)

The information of the was also verified from the CME database/5/ which was cross checked for 11 WPS samples with the purchase orders/14/.

The emission reductions being claimed during this monitoring period are lesser than the estimated emission reductions in the revised or included CPA-DDs/2/, as given in the table under section E.3.6.5. for comparable estimated ERs in the CPA DDs/2/ for the corresponding period.

The CPAs are within the threshold limits of the applied methodology/6/.

	The monitoring report was compared and verified against the description provided in the revised accepted PoA-DD/1/ and found to be correct.
Findings	No finding has been raised.
Conclusion	In view of the information's verified through the remote audit survey and remote survey videos provided by the CME, the verification team is able to confirm that all physical features (technology, project equipment, and monitoring and metering equipment) of the registered CDM program of activities were in place and that the CME has operated the project activity as per the registered PoA-DD/1/ during the concerned monitoring period. The emission reductions achieved during the current monitoring period are 218,595 tCO_2e. Justification for this has been assessed in further sections of report.

E.2.2. Implementation and operation of the management system

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

E.2.3. Post-registration changes

E.2.3.1. Corrections

No correction observed

E.2.3.2. Inclusion of a monitoring plan

N/A

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

N/A

E.2.3.4. Changes to the programme design

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

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

E.2.3.5. Addition of CPA inclusion template

N/A

E.2.3.6. Change of coordination/managing entity

N/A

E.2.3.7. Changes specific to afforestation and reforestation activities

N/A

E.3. Component project activities

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

Means of verification

The registered PoA aims to provide safe drinking water to the institutions in Nigeria, Rwanda, Uganda and Kenya. The PoA is primarily designed to replace the existing fossil fuel / non-renewable woody biomass based means of purifying water by installing low emission / emission free Water purification systems to provide safe drinking water. Impact Water is the implementer of the CPAs and has fully implemented the CPAs with the help of Sales and Distribution Partner (SDP). The same has been verified from the agreement between the CME and CPAI/15/. This monitoring period includes the implementation and monitoring of 10 CPAs- CPA 9948-P1-0003-CP1,9948-P1-0005-CP1 to 9948-P1-0013-CP1 in Nigeria.

CPA no.	First WPS Installation date	Inclusion date	Crediting period	No. of units			Estimated ERs	ERs achieved
				FLO	TAB	Multi-barrier UV		
9948-P1-0003-CP1	01/04/2017	08/05/2017	23/05/2017-22/05/2024	0	0	260	17,952	14,916

9948-P1-0005-CP1	11/01/2018	04/10/2017	04/10/2017-03/10/2024	1,172	0	0	59,842	43,015
9948-P1-0006-CP1	12/07/2018	04/10/2017	04/10/2017-03/10/2024	848	0	0	59,842	38,978
9948-P1-0007-CP1	30/08/2018	04/10/2017	04/10/2017-03/10/2024	802	0	0	59,842	30,520
9948-P1-0008-CP1	09/10/2018	04/10/2017	04/10/2017-03/10/2024	756	0	0	59,842	25,673
9948-P1-0009-CP1	09/11/2018	04/10/2017	04/10/2017-03/10/2024	682	0	0	59,842	21,444
9948-P1-00010-CP1	07/12/2018	04/10/2017	04/10/2017-03/10/2024	556	0	0	59,842	16,800
9948-P1-0011-CP1	11/01/2019	04/10/2017	04/10/2017-03/10/2024	713	0	0	59,842	14,104
9948-P1-0012-CP1	13/02/2019	04/10/2017	04/10/2017-03/10/2024	631	262	0	59,842	8,294
9948-P1-0013-CP1	19/03/2019	04/10/2017	04/10/2017-03/10/2024	474	475	0	59,842	4,801
	As checked from the delivery notes/21/	Checked from the UN website /12/	Checked from the UN website /12/	Check-ed from sales data base/5/	Check-ed from sales data base/5/		Checke d from the ER sheet/4/	Check ed from the ER sheet/ 4/

As per the registered PoA-DD page 59 *"products deployed under the project activity are assumed be in operation as of the start of the next month following the date of sale"*. Thus, any installation in the month of May 2019 will be eligible for crediting only in the month of June 2019. Given, the current monitoring period is ending in 22/05/2019, therefore only the units installed till April 2019 (up to 30/04/2019) are eligible for crediting under the concerned monitoring period. Thus, the CME has considered 30/04/2019 as the cut-off date of installation for this monitoring period.

It has been checked by the verification team from the ER sheet/4/ that the ERs achieved for the CPAs lies between 4,801 tCO2e – 43,015 tCO_2e, which is below the threshold of small-scale activity. It has been confirmed that:

1. Each of these CPAs achieves an annual emission reduction equal to or less than 60,000 tCO_2e per year thus complying with the applied methodology SSC threshold/6/,
2. Each of the technologies installed under these CPAs achieves an annual emission reduction equal to or less than 3,000 tCO_2 e per year (5% of the SSC limit) thus fulfilling the additionality criteria stated in the CPA DD/2/ and PoA DD/1/.
3. Each of the independent subsystems/measures included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the applied methodology (i.e. not exceeding 600tCO_2e for SSC type III methodologies) thus fulfilling the additionality criteria stated in the CPA DD/2/ and PoA DD/1/.

	The implementation of the CPA as mentioned above is within the geographical boundary of PoA-DD/1/, which constitutes the physical boundary as well. Impact Carbon is the CME of the CPA and 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.
Findings	CAR#03 was raised and resolved
Conclusion	a) The verification team is of the opinion that physical features of the CPA have been implemented in accordance with the registered CPA-DD. b) No specific monitoring equipment had to be installed according to the monitoring plan. c) It is also confirmed, through the remote audit survey and review of the supporting documentation that physical features of the component CPA have been implemented in accordance with the CPA-DD. d) The CPA was also found to be completely operational in line with the CPA-DD. e) The information provided in the relevant sections of the monitoring report appropriately describes the implementation and operational status of the PoA

E.3.2. Post-registration changes

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

During the current monitoring period 23/05/2017 to 22/05/2019, the CME has proposed a post-registration change for a period of one year i.e. from 23/05/2017 to 22/05/2018 as the CME was not able to monitor the data for calculation of baseline emissions for this non-conforming monitoring period of 1 year i.e. from 23/05/2017 to 22/05/2018. The change falls under the category of temporary deviation from the registered monitoring plan as per para 228 of PS for PoA/7/.
The proposed alternative monitoring arrangements produce a conservative estimate of greenhouse gas (GHG) emission reductions or net anthropogenic GHG removals as demonstrated in the PRC validation opinion/40/. Thus, the PRC request will be submitted along with the issuance as per Appendix 1 of PS for PoA version 2.0. Please refer to the PRC report for details/40/.

E.3.2.2. Corrections

Corrections were identified in CPA 9948-005 to CPA 9948-0013 and CPA 9948-0016 to CPA 9948-0022. 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 9948-005 to CPA 9948-0013 and CPA 9948-0016 to CPA 9948-0022. 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 ^{o}C

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

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

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

Initial Temperature, T_i

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

Latent heat of Water Evaporation, WHE, Kj/L

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

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

Leakage, L

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

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

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

Emission Factor for electricity generation for source j in year y, $EF_{EL,j,y}$, tCO_2/MWh

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 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, TDLj,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, QPWy (liters/year):

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan	Yes.

	and monitoring methodology? (Yes / No)	
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The parameter is a calculated parameter determined through following equation: $QPW_y = \Sigma (T_{y,i} \times N_{y,i} \times R_{y,i} \times 365 \times \text{Water Quality}_i \times \text{Operational Units}_i)$ The formula is correct and in line to the applied methodology/6/, PoA DD/1/ and CPA DDs/2/. The installation for CPAs under the verification has been done between 01/04/2017-30/04/2019. As per the page 59 of revised approved PoA DD/1/, "*The date of installation for each unit is used to determine the portion of the monitoring period during which the unit was active. Products deployed under the project activity are assumed be in operation as of the start of the next month following the date of sale, i.e. if the date of sale is April 1st, the start of operation is May 1*" Thus, for all the systems installed in April, ERs will be claimed in May 2019. The ER sheet/4/ was checked to confirm that the formula has been applied correctly.
	If applicable, has the reported data been cross-checked with other available data?	Yes. The equation used for the calculation is correct and is sourced from the paragraph 11 of the applied methodology/6/
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /40/ for details
Findings	CAR#01 and CL#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/.	

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

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously

	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The parameter is determined by sourcing a default value from the applied methodology/6/ and multiplying it with the proportion of population of the institutions different type of stove. The GACC report for Nigeria, 2016/16/ was reviewed to confirm that the all public institutions cook with wood on traditional three stone fire. Therefore, a value of efficiency for unimproved stove was applied.
	If applicable, has the reported data been cross-checked with other available data?	Yes. Sampled number of entries (11 WP systems) were surveyed. The head/deputy head teacher of the institutions were interviewed to know the treatment method used in the absence of the WPS installation. All interviewed people replied that unsafe drinking water was used from boreholes/wells and boiling water would have been the cheapest option to get safe drinking water. No other means were deemed affordable by the institutions.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /40/ for details
Findings	CL#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/.	

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

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The total number of systems reported in the monitoring report are as

			following: 6634 UltraFLO 737 UltraTAB 260 Multi-Barrier UV The CME keeps purchase order/14/, delivery notes/21/ and details of each system on salesforce as checked on site. Each unit of Ultra FLO system has unique ID, which is listed in the database and has been claimed for ERs. For Ultra TAB system, the value of the parameter has been determined by considering each institution as a system. Therefore, for institutions with Ultra TAB, the number of tab systems is same as number of institutions. Again, each unit of for Multi-UV Barrier has a UID, each of which has been listed in the database and ERs have been claimed. The entries in database were checked to confirm the total number presented in the MR. 11 WPS samples were remotely surveyed also, to confirm that the details of the entries in the database/5/ are correct.
		If applicable, has the reported data been cross-checked with other available data?	Yes. Sampled number of entries (11) were checked with the purchase order/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?	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /40/ for details
Findings	CL#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/.		

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

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes

	Monitoring equipment	NA
	How were the values in the monitoring report verified?	At the time of installation, the purchase order form is filled by the CME. This form/14/ notes down the total number of students and staff in boarding/non-boarding schools. These numbers are mentioned for each school in the sales database. For the 11 WPS samples checked by the DOE during the remote audit survey, the same numbers were checked and found to be correct. The CME has also applied formula in the ER sheet/4/ to ensure that the $N_{y,i}$ multiplied by $R_{y,i}$ does not exceed the maximum output of the unit [per unit]. An average value of all the adjusted $N_{y,i}$ has been used for ER calculation respective of each CPA. In general, the average of $N_{y,i}$ for all the CPAs was found to be 362 person/technology. The parameter value is noted at the time of installation by the CME and as the number of systems increases over the time, the value will change continuously. The institutions were checked to confirm that CME is recording this information in database and the implementation is in line with PoA DD/1/. As per the CPA DDs (9948-P1-0003, 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. The number of people in the institution will be updated (at least biennially) to reflect change in the institution size over time. The value will be updated in the sales database biennially. For the current monitoring, the value of the parameter was verified from the sales database /5/ and purchase orders/14/. This parameter is neither prescribed nor monitored by CME on sample basis as per registered monitoring plan. The parameter is monitored on absolute basis for each of the installation.
	If applicable, has the reported data been cross-checked with other available data?	Yes. The values in the ER sheet were checked with remote audit survey observations by the DOE which was further cross-checked with the purchase orders/14/.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes

	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /40/ for details
Findings	No Findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Water quality measurement, Water Quality$_i$, Proportion

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	Aquagenx testing kits
	Calibration details	Not Applicable.
	How were the values in the monitoring report verified?	The CME used Aquagenx testing kits to monitor E.Coli value for sampled institutions. The Head teachers/ Deputy Head teachers of the schools interviewed by the DOE during the remote audit survey confirmed that they were visited by monitoring team for the tests. The monitoring forms/18/ Aquagenx testing kits photographs showing achieved results /30/ for all the institutions were checked by the verification team to confirm the monitoring parameter value. It was found that all the tests gave positive results confirming safe drinking water except three sampled schools. Hence, the applied value of 0.96 was found acceptable.
	If applicable, has the reported data been cross-checked with other available data?	Photos of the test/30/ conducted during the monitoring were shared by the CME which confirmed the results in monitoring forms.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The staff conducting the tests were found to be trained as confirmed from training evidences/20/ provided by the CME confirmed that the tests are conducted and evaluated by trained staff.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/.

	stipulated by Appendix 1 to the CDM Project Standard?	Please refer to PRC Validation Report /40/ for details
Findings	CL#03 was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

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

Means of verification	**Criteria/Requirements**	Assessment/Observations
	Measuring /Reading /Recording frequency	Once per verification
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The sampled systems were checked by the CME's monitoring team to monitor the operational status of the WPS units installed in the institutions as checked from the monitoring survey forms/18/. The Head teachers/ dy. Head teachers 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 visited the school for the monitoring. All the systems checked by the CME representative during the remote survey were found to be operational. Thus, the applied value of 95.45% was found acceptable.
	If applicable, has the reported data been cross-checked with other available data?	Results presented in the ER sheet were checked with monitoring survey forms/18/ and remote survey visit videos.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The staff conducting the tests were found to be trained as confirmed from training evidences/20/ provided by the CME confirmed that the tests are conducted and evaluated by trained staff.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /40/ for details
Findings	CL#03 was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Fraction of woody bio-mass saved by the project activity in Year, fNRB, Fraction

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The parameter is determined by sourcing a default value from UNFCCC SSC WG 37th Meeting Report for Nigeria /26/ and multiplying it with the percentage of population using non-renewable woody biomass / fossil fuel. The GACC report for Nigeria, 2016/16/ was reviewed to confirm that the all public institutions cook with wood on traditional three stone fire. Therefore, a value 100% of users using non-renewable woody biomass was multiplied with default value of 0.93 UNFCCC SSC WG 37th Meeting Report for Nigeria /26/ to the final value = 0.93, which was applied in the ER calculation sheet/4/. The applied value was found to be correct. The value has been determined is in line with the PoA DD/1/ and CPA DDs/2/.
	If applicable, has the reported data been cross-checked with other available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /40/ for details
Findings	CL#03 was raised and resolved	
Conclusion	The values in the Monitoring Report /13/ and corresponding Emission Reduction Spreadsheet /4/ are consistent with the revised accepted PoA-DD/1/ and CPA-DDs/2/. The values applied for ER calculations/4/ in the relevant CPAs are correct and justified.	

Emission factor as per AMS-I.E. procedures when NRB is displaced or the emission factor of the fossil fuel substituted, EF projected_fossil fuel, tCO_2/TJ

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency	Yes

	in accordance with the monitoring plan and monitoring methodology? (Yes / No)	
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The parameter is determined by sourcing a default value from AMS-I.E /25/ and multiplying it with the % population using non-renewable woody biomass / fossil fuel.. The GACC report for Nigeria, 2016/16/ was reviewed to confirm that the all public institutions cook with wood on traditional three stone fire. Therefore, a value 100% of % users using non-renewable woody biomass / fossil was multiplied with default value of 81.6 sourced from AMS-I.E./25/ to give the final value = 81.6, which was applied in the ER calculation sheet/4/. The applied value was found to be correct. The value has been determined is in line with the PoA DD/1/ and CPA DDs/2/.
	If applicable, has the reported data been cross-checked with other 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 ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /40/ for details
Findings	CL#03 was raised and resolved	
Conclusion	The values in the Monitoring Report /13/ and corresponding Emission Reduction Spreadsheet /4/ are consistent with the revised accepted PoA-DD/1/ and CPA-DDs/2/. The values were found consistent with IPCC default values for fossil fuels /22/. The applied values are correct and justified.	

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

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The institutions of sampled WPS were visited by the CME's monitoring team

		to check the existence of public distribution network with safe drinking water as checked from the monitoring survey forms/18/. The Head teachers/ dy. Head teachers of the schools visited by the CME representative during the monitoring survey were confirmed to the DOE through the telephonic interview that the monitoring team visits the school regularly for the monitoring. All the institutions of sampled WPS visited by the CME representative during the remote survey were found do not have any access to public distribution network of safe drinking water. Their source of water was found to be Borewell/ Well etc.. Besides, review of other monitoring survey forms and sales database indicated that safe drinking water based public distribution network was not accessible to project schools. Thus, the applied value of 0 was found acceptable for the current verification.
	If applicable, has the reported data been cross-checked with other available data?	Results presented in the ER sheet were checked with monitoring survey forms/18/ and remote survey results.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The staff conducting the tests were found to be trained as confirmed from training evidences/20/ provided by the CME confirmed that the tests are conducted and evaluated by trained staff.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	The parameter has not been monitored for 23/05/2017 to 22/05/2018 and temporary deviation has been proposed for the same in-line to para 228 of PS for PoA version 2.0 /7/. Please refer to PRC Validation Report /40/ for details
Findings	CAR #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/.	

Quantity of electricity consumed by the project electricity consumption source j in year y, $EC_{PJ,j,y}$, 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 capacity of the disinfection unit was found to be 14 watts as checked from the WPS manufacturer specification for Multi-barrier UV/28/. Thus, taking an assumption a technology was considered to be operational for 24 hours a day and 365 days in a year. Thus, the applied value of 0.1226 was found to be conservative and acceptable for the current verification.
	If applicable, has the reported data been cross-checked with other available data?	not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	CL#03 was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

E.3.4.3. Implementation of sampling plan

Means of verification	The monitoring has been carried out in accordance with the monitoring plan contained in the revised approved PoA DD/1/ and CPA DDs/2/. **Sampling Design/Target Population/Sampling Frame/Reliability**: The CME has applied single sampling plan for all of the 10 CPAs. According to the 'Sampling and Survey standards,' version 8.0/19/, the sampling plan applied by the PP for the following CPAs are found to be appropriate. As per the sampling plan stated in the PoA DD/1/, a minimum 90% confidence interval and a 10% margin of error requirement is achieved for the sampled parameters. When a single sampling plan covers a group of CPAs or when monitoring is conducted biennially (every two years), confidence/precision of 95/10 for the sample size calculation is applicable. Since the sampling has been done across the CPAs, the CME has taken 95/10 as the confidence precision levels which is found to be in line with the registered monitoring plan/1,2/. The target population for the parameters stated above are Water purification systems[6] installed / distributed in institutions and recorded in the project sales database **Sampling Frame:** There are three different type of units under the CPAs. 6634 UltraFLO units, 737 UltraTAB units and 260 Multi-barrier UV have been listed in the sales database. However, the parameters for monitoring are homologous (i.e. implemented in school). Thus, the CME has applied a common sampling for all the parameters

[6] 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.

monitored which was found acceptable.

Sampling Method and selection:

The CME has applied Stratified Random Sampling by dividing the population into three strata (UltraFLO, UltraTAB, Multi-barrier UV). The samples have been chosen randomly from these three strata as checked from screenshots of random generator online website -Stat Trek/32/ and the excel sheets with random numbers/33/.

Sample Size for Parameter of Interest:

The sampling is applied to the following monitoring parameters:

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

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

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

Implementation of Sampling Survey and Field Test Records:

Based on interviews with the CME and surveyors during the e-meeting of the remote audit survey, in addition to simply asking this question to the end users, the surveyors were also trained to evaluate to results of Aquagenx tests. Therefore, the implementation of surveys and tests was considered reliable. The surveyors also took photos of the school name board, test results which 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-P1-0003-CP1, 9948-P1-0005-CP1 to 9948-P1-0013-CP1	Water Purification systems	12/11/2019	12/12/2019

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. 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	CL#04 and CAR#02 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 is required as outline in the CPA-DDs/2/ and revised accepted PoA-DD/1/.

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

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

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

Means of verification

The following equations were used to determine the baseline emissions as provided in the monitoring report /13/ and applied in the corresponding ER calculations sheet /4/. The expressions used were found consistent with the revised accepted PoA DD /1/, CPA DDs /2/ and the applied methodology AMSIII.AV, version 04 /6/:

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

Where,

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

Calculation for CPA 9948-P1-0003-CP1 (*as an example*):

= 58,269,682 x 3574.80 x 0.93 x 81.60 x 10^{-9}

= 15,807.00 tCO_2e

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

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

Where

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

	Calculation for CPA 9948-P1-0003-CP1: SEC = [4.186x(100-20) + 0.01x2260]/0.10 SEC = 3574.80 kJ/L. And QPW_y is calculated through following equation: $QPW_y = \Sigma (T_{y,i} x N_{y,i} x R_{y,i} x 365 x Water\ Quality_i x Operational\ Units_i)$ The installation for CPAs under the verification has been done between 01/04/2017-30/04/2019. As per the page 59 of revised approved PoA DD/1/, "*The date of installation for each unit is used to determine the portion of the monitoring period* *during which the unit was active. Products deployed under the project activity are assumed be in operation as of the start of the next month following the date of sale, i.e. if the date of sale is April 1st, the start of operation is May 1*" Thus, for all the systems installed in April 2019, ERs will be claimed in May 2019. The end date of the monitoring period is 22/05/2019. The applicable formula is: $QPW_y = \Sigma (T_{y,i} x N_{y,i} x R_{y,i} x \mathbf{365} x Water\ Quality_i x Operational\ Units_i)$ 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) **Calculation for CPA 9948-P1-0003-CP1:** QPW_y = 260 x 340 x 2.28 x 316 x 0.95 x 0.96 QPW_y = 58,269,682 L 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-P1-0005-CP1 to 9948-P1-0013-CP1) were checked in the ER sheet/4/ and it was found that calculations have been done inline to the PoA DD/01/ and in accordance to the applied methodology/6/. All the parameters are assessed in detail under section E.3.4. of this report. * 316 days has been used in the formula, instead of 365 days due to progressive sales over the monitoring period under CPA 0003 and less than an annual monitoring period, resulting in lower number of crediting days
Findings	CL#05 was raised and resolved.
Conclusion	The verification team confirms that a) The complete data was available and is duly reported; b) As indicated above, the description with regard to cross-check of reported data is included under respective parameter above; c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals were followed; d) Appropriate emission factors, IPCC default factors and other reference values

	were correctly applied. e) There is no pro-rata approach applied in the current monitoring period as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol.

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

Means of verification	The project activity involves no emissions for type 2 CPAs as it involves dissemination of water purification systems and replaces the non-renewable woody biomass fossil fuel way of boiling water with the transitioned way of water purification by the chlorination technologies. The project emissions for type 3 CPAs were found to be calculated as follows: $PE_y = T_{y,i} \times EC_{PJ,j,y} \; x \; EF_{EL,j,y} \; x \left(1 + TDL_{j,y}\right)$ For CPA 9948-P1-0003-CP1, PEy= 260*0.1226*1.30*(1 + 0.20)*2[7] = 100 tCO_2e
Findings	None.
Conclusion	The project emissions have not been considered for Type 2 CPAs and have been considered for Type 3 CPAs. The approach is in line with the PoA DD/1/.

E.3.6.3. Calculation of leakage GHG emissions

Means of verification	The PoA-DD/1/, CPA DDs/2/ and applied monitoring methodologies does not prescribe any leakage emissions to be considered. The remote survey and project design also did not reveal any potential source to be considered in this regard. However, the leakage adjustment factor that is required to adjust the baseline emissions has been duly accounted in baseline calculations. BE_y is multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required. Therefore, the leakage is calculated as follows: Leakage = BE_y * (1-95%) Calculation for **9948-P1-0003-CP1 is as follows:** LE = 15,807.00 * (1-0.95) LE = 791 tCO_2e 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-P1-003-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 verified value of Leakage for all the CPAs is 11,513 tCO_2e. The value is mentioned CPA wise in the table presented under the next section.
Findings	None.
Conclusion	No additional leakage emissions (other than what is already considered in baseline calculations) were required in accordance with the methodology AMS-III.AV, version 04 /6/.

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

Means of verification	As elaborated above, the entire emission reductions from the PoA were based on baseline emissions. The calculations presented in this regard in the final monitoring report /13/ and corresponding ER calculations sheet /4/ were found appropriate and complying with the provisions prescribed in the registered monitoring plan of

[7] Project emissions calculated for entire two-year monitoring period, as a conservative measure.

	respective CPA-DDs/2/, PoA-DD/1/ and applied methodology/6/. The verification team confirms that from the remote audit survey where all the evidence and records that validated the stated figures were checked and found acceptable.
Findings	CL#01 and CAR#01 were raised and resolved.
Conclusion	The verification team confirms that a) The complete data was available and is duly reported; b) As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.5.4 of this report); c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed; d) The total number of ERs achieved (on account of water purifiers installation) during the current monitoring period were 218,545 tCO_2e.

Title and UNFCCC reference number of the CPA	Baseline emissions or baseline net GHG removals by sinks (tCO_2e)	Project emissions or actual net GHG removals by sinks (tCO_2e)	Leakage (tCO_2e)	GHG emission reductions or net GHG removals by sinks (tCO_2e)		
				Amount achieved before 1 January 2013	Amount achieved from 1 January 2013	Amount achieved in the entire monitoring period
9948-P1-003-CP1	15,807	100	791	0	14,916	14,916
9948-P1-005-CP1	45,279	-	2,264	0	43,015	43,015
9948-P1-006-CP1	41,030	-	2,052	0	38,978	38,978
9948-P1-007-CP1	32,127	-	1,607	0	30,520	30,520
9948-P1-008-CP1	27,025	-	1,352	0	25,673	25,673
9948-P1-009-CP1	22,573	-	1,129	0	21,444	21,444
9948-P1-0010-CP1	17,685	-	885	0	16,800	16,800
9948-P1-0011-CP1	14,847	-	743	0	14,104	14,104
9948-P1-0012-CP1	8,731	-	437	0	8,294	8,294
9948-P1-0013-CP1	5,054	-	253	0	4,801	4,801
Total	230,158	100	11,513	0	218,545	218,545

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

Means of verification	Earthood Services Private Limited is able to certify that the emission reductions from the CDM project activity 9948 "Impact Carbon Global Safe Water Programme of Activities (PoA)" in Nigeria for the monitoring period 23/05/2017-22/05/2019 (including both days) amount to 218,545 tCO_2. **Verified and certified emission reductions as per commitment period:** **Commitment period** **Amount**

	Upto 31/12/2012 (1st commitment period)	0 tCO_2e
	From 01/01/2013	218,545 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-P1-003-CP1	14,916	17,952
9948-P1-005-CP1	43,015	59,842
9948-P1-006-CP1	38,978	59,842
9948-P1-007-CP1	30,520	59,842
9948-P1-008-CP1	25,673	59,842
9948-P1-009-CP1	21,444	59,842
9948-P1-0010-CP1	16,800	59,842
9948-P1-0011-CP1	14,104	59,842
9948-P1-0012-CP1	8,294	59,842
9948-P1-0013-CP1	4,801	59,842
Total	218,545	556,530

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

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

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

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

E.3.8. Global stakeholder consultation

Means of verification	The global stakeholder consultation was not found applicable because period under verification is 2nd monitoring period.
Findings	No findings were raised
Conclusion	The requirement is applicable for situations when global stakeholder consultation was carried out after the publication of first monitoring report. Therefore, this was not found applicable.

SECTION F. Internal quality control

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

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

SECTION G. Verification opinion

Earthood Services Private Limited (ESPL), contracted by Impact Carbon (the CME for the PoA), has performed the second independent verification of the emission reductions for the registered CDM PoA 9948 "Impact Carbon Global Safe Water Programme of Activities (PoA)" for the second monitoring period 23/05/2017-22/05/2019 (both days included) as reported in the Monitoring Report (final) Version 3 dated 10/08/2020/13/. The CME is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

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

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

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

As a result, it is confirmed that the emission reductions from the CDM PoA 9948 "Impact Carbon Global Safe Water Programme of Activities (PoA)" are correctly reported in the Monitoring Report Version 3/13/ dated 10/08/2020 and corresponding ER sheets for the monitoring period 23/05/2017-22/05/2019(including both days) amount as 218,545 tCO_2e. Therefore, this will be submitted as part of request for issuance as per CDM PCP Version 02/8/.

SECTION H. Certification statement

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

In our opinion the GHG emissions reductions reported for the PoA for the monitoring period 23/05/2017 – 22/05/2019 (MP 02) are fairly stated in the Monitoring Report (final) Version 3 dated 10/08/2020.

ESPL, based on outcome of verification activities, certify in writing that, during the monitoring period 23/05/2017-22/05/2019 (including both days), the registered CDM PoA "Impact Carbon Global Safe Water Programme of Activities (PoA)" and the included CDM CPAs achieved the verified amount of **218,545** tCO_2e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the CPAs.

Appendix 1. Abbreviations

	Full texts
AMS	Approved Methodology for Small-scale
BE	Baseline Emission
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CH4	Methane
CL	Clarification Request
CME	Coordinating and Managing Entity
CO2	Carbon di oxide
CPA	Component Project Activity
CP	Crediting Period
DNA	Designated National Authority
DR	Desk Review
DOE	Designated Operational Entity
EB	Executive Board
ER	Emission Reduction
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GSC/GSP	Global Stakeholder Consultation Process
GW	Giga Watt
GWh	Giga Watt hour
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
kW	kilo Watt
L/min	Litres per minute
LoA	Letter of Approval/Authorization
LSC	Local Stakeholder Consultation Process
MoC	Modalities of Communication
MoV	Means of Validation
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
N2O	Nitrous Oxide
PCP	Project Cycle Procedure
PE	Project Emission
PoA DD	Programme of Activities Design Document
PP	Project Participant
PRC	Post Registration Changes
PS	Project Standard
QA/QC	Quality Assurance/Quality Control
tCO2e	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:10/08/2020	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 forms (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	Various	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 37th Meeting Report for Nigeria	http://cdm.unfccc.int/Panels/ssc_wg/meetings/037/ssc_37_an14.pdf	CME
27	Impact Carbon	UID photographs of WPS	-	CME
28	Impact Carbon	Manufacturer's Specifications	-	CME
29	Impact Carbon	Evaluating household water treatment options: Health based targets and microbiological performance specifications" (WHO 2011)	https://www.who.int/water_sanitation_health/publications/2011/evaluating_water_treatment.pdf	CME
30	Impact Carbon	Photos of Aquagenx test	-	CME
31	UNFCCC	Guidelines for sampling and surveys for CDM project activities and programme of activities	Version 4.0	Other
32	Stat Trek	Screenshot- Stat trek	-	CME
33	Impact Carbon	Random number -excel sheet	-	CME
34	Impact Carbon	Site-exemption Clarification Mail	16/03/2020	CME
35	Impact Carbon	Emission Reduction Purchase Agreement	2016-2020	CME
36	UNFCCC	AMS-I.E.	Version 5.0	Other
37	Impact Carbon	Complaint Log (Sample)	-	CME
38	Impact Carbon	Remote Survey Files Selected Sample Videos, Interview video of the school representative	17/03/2020-23/03/2020	CME
39	UNFCCC	Tool 05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation	Version 1.0	Other
40	ESPL	PRC Report	Version 2.0 dated 11/08/2020 (submitted with this issuance)	Other
41	NY TIMES	https://www.nytimes.com/2020/03/24/world/asia/india-coronavirus-lockdown.html	-	Other
42	BBC NEWS	https://www.bbc.com/news/world-asia-india-52024239	-	Other
43	Bureau of Immigration	Advisory: Travel and Visa restrictions	13/03/2020	Other
44	worldometers	https://www.worldometers.info/coronavirus/worldwide-graphs/	-	Other

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

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

FAR ID	NA	**Section no.**	NA	**Date :** NA
Description of FAR				
NA				
Project participant response				**Date :** DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				**Date:** DD/MM/YYYY
NA				

Table 2. CLs from this verification

CL ID	01	**Section no.**	E.3.6.4	**Date :** 24/03/2020
Description of CL				
The start date of the monitoring period is 23/05/2017 as per the project webpage. Also, the ER sheet, worksheet titled "sales database" has entries since 01/04/2017/. However, the start date of the monitoring period considered for the calculation of the ERs is 23/05/2018. Please clarify.				
Project participant response				**Date :** 29/04/2020
The monitoring report submitted pertains to the second monitoring period of the PoA. The start date of the second monitoring period is 23/05/2017 and end date is 22/05/2019 in line with previous monitoring reports uploaded on UNFCCC (9948-MP2-MRP1, 9948-MP2-MRP2 and 9948-MP2-MRP3). Although the monitoring period is a two-year period, however no CERs are being claimed for the first year (23/05/2017 to 22/05/2018). Hence, the effective start date of the monitoring period reported in the MR starts from 23/05/2018 and ends on 22/05/2019. All monitoring data specified in the monitoring report pertains to the aforesaid effective monitoring period. Accordingly, the confidence / precision of 95/10, for annual monitoring, has been applied for sub-grouped CPAs in line with registered PoA-DD / CPA-DDs. The ER sheet worksheet titled "sales database" has WPS entries from 01/04/2017 but these WPS entries are accruing credits from 23/05/2018 onwards. Please refer ER sheet, worksheet 'Sales Database', column AN where this has been duly considered.				
Documentation provided by project participant				
-				
DOE assessment				**Date:** 04/05/2020
The 2nd MP is from 23/05/2017-22/05/2019, though the CERs have been claimed from 23/05/2018 as checked from the ER sheet (Title:9948_MP2_Norway 1B Nigeria) and no CERs are claimed for a period of 1 year i.e.23/05/2017-22/05/2018. Thus, the effective monitoring period is from 23/05/2018-22/05/2019 and was found to be correct and acceptable. (Closed)				

CL ID	02	**Section no.**	E.1.1	**Date :** 24/03/2020
Description of CL				
MR template guidelines of section A.1.2 states that "indicate the titles and UNFCCC reference numbers of all CPAs (including the version of the CPA-DD) included in the PoA as of the end date of this monitoring period". The section A.1.2 of the MR Version 1 lists the CPAs which have been included in the PoA after end of the current Monitoring Period.				
Project participant response				**Date :** 29/04/2020

The CPAs which have been included in the PoA after the end date of the monitoring period have been removed from section A.1.2 of the revised monitoring report. The revised MR is being submitted.
Documentation provided by project participant
PoA 9948_MP2_Norway 1B Nigeria MR ver 2.0_29042020
DOE assessment **Date:** 04/05/2020
PP has now revised the section A.1.2 of the MR dated:29/04/2020 in-line to the MR template guidelines. Thus, the section now lists the CPAs which was included till the end date of monitoring period. (Closed)

CL ID	03	**Section no.**	E.3.4.2	**Date :** 13/05/2020
Description of CL				
1. Considering that η_{wb} is defined as data to be monitored and the question is also listed under monitored data worksheet (column P and Q), why the responses were not captured or reported? The parameter defines the default value depending upon the baseline device. How the type of baseline device was not identified as part of monitoring survey in spite of having question for that? Please clarify? 2. Several parameters under Section E.2 define multiple frequencies as permitted by registered monitoring plan. However, it is not clear what has been following in the current monitoring period? para 263c of CDM PS PoA V2) 3. Several parameters e.g., $EC_{pj,i,y}$ defines multiple sources of data viz., manufacturers' specifications, surveys or direct monitoring. Therefore, it is not clear which one(s) are/were used in the current monitoring period. (para 263d of CDM PS PoA V2)				
Project participant response				**Date :** 14/05/2020
1. The question listed under monitored data worksheet (column P and Q) captures the likelihood of project users boiling water after treatment by the project devices. If any of the sampled user is found boiling water after water treatment by project device, appropriate discounts need to be applied to emission reduction calculations (given boiling water after purification by project device will neutralize the baseline emissions avoided by the corresponding project device). No sample users were found boiling water after treatment with project device. Hence the columns P and Q don't show any response as they are only attributed to post project device treatment boiling cases. Additionally, please refer page number 82 and 115 of the registered PoA-DD which states the following: *Default values as per AMS-III.AV combined with survey, national, or regional data to determine the percent of users using different types of water boiling systems in the baseline scenario.* Thus, % users using unimproved biomass burning stove, other biomass burning stove and/or fossil fuel stove in Nigeria has been updated as the per the Global Alliance for Clean Cookstoves, Nigeria report and a weighted average value has been applied to determine η_{wb}. This remains the most recent national data available. Hence determination of η_{wb} value is in line with the registered PoA-DD. 2. The monitoring frequencies under section E.2 of the MR have been revised as per the monitoring frequency followed for various monitoring parameters in the current monitoring period. The revised MR is being submitted. 3. The source of data of $EC_{pj,i,y}$ and other monitoring parameters have been revised in the MR. Only the source of data used in the current monitoring period is mentioned under section E.2 of the revised MR. The revised MR is being submitted.				
Documentation provided by project participant				
PoA 9948_MP2_Norway 1B Nigeria MR ver 2.1_14052020				
DOE assessment				**Date:** 26/05/2020

1. The question listed under column Pand Q was found to be appropriate for the users using boiling of water post the use of project device. From the monitoring survey forms it was confirmed that none of the users were boiling water post the treatment from the project device. Thus, no responses were recorded under the respective columns which was found to be appropriate and correct.
   CME has applied the weighted average value of % users using unimproved biomass burning stove other biomass burning stove or fossil fuel stove in Nigeria to determine nwb value in-line to the Source of data of the parameter mentioned on page 82 and 115 of the registered PoA-DD (Version 7.0) . Thus, the clarification provided by the CME of using the default value for the monitored parameter as all the end-users were found using unimproved biomass burning stove as confirmed from the monitoring sheet as well as survey forms. The approach for the determination of nwb value was found to be in-line with the measurement methods and procedure mentioned in the registered PoA-DD (on page 83). (Closed)
2. The MR has been revised to mention only the chosen frequency. The frequency is in line with the applied methodology and registered PoA DD. Thus, the revisions to the MR were found to be correct and were accepted by the verification team.
3. The MR has been revised to mention only the chosen source of the parameter. The source now mentioned in the MR was provided to the verification team as an evidence. The source is in line with the applied methodology and registered PoA DD. Thus, the revisions to the MR were found to be correct and were accepted by the verification team.

Thus, the CL is closed

CL ID	04	**Section no.**	E.3.4.3	**Date :** 13/05/2020

Description of CL

1. Sample size calculation worksheet the text mentioned in row 25 (column A to c) is not clear, given that the parameter discussed is Operational $Units_i$. Please clarify. The reported monitored value in MR is 95% for Operational Units, whereas the weighted average results in ER sheet is 95.45%. Please clarify. Similarly, the reported value of Water Quality in MR is 0.96, whereas the weighted average value in ER sheet is 95.69%. Please clarify.
2. Please clarify when was the sampling conducted in order to confirm whether the monitoring frequency for parameters monitoring through sampling are in accordance with the registered monitoring plan (of (also refer e.g., CPA DD 05 Section B.5.3 para (a)) given the monitored data worksheet in the ER does not contain the date the survey was carried out. In MR, it is indicated that it was carried out in November and December 2019 without specifying the actual start date and end date. (para 263c of CDM PS PoA V2).
3. PP shall explain how vintage or age of devices has been considered in sampling by CME

Project participant response **Date :** 14/05/2020

1. The text mentioned in row 25 (column A to C) of Sample Size Calculation worksheet has been revised as "Operational $Units_i$". The value of Operational $Units_i$ has been revised in the MR as per the ER Sheet to be consistent with the ER Sheet. The value of parameter "Water $Quality_i$" has also been revised in the MR to be consistent with the ER Sheet. The revised MR and ER sheet are being submitted.
2. The duration of monitoring has been specified in section E.3 of the revised MR. The revised MR is being submitted.
3. CME has applied stratified random sampling for the current monitoring period on the basis of technology (UV, Ultra TAB, UltraFlo). The water purification systems (WPS) installed/distributed across different CPAs (as recorded in the sales database) were stratified based on technology and desired number of samples were drawn from each stratum. The registered monitoring plan does not mandate sampling based on the vintage or age of WPS unit.
   Further, the WPS technology installed/distributed in among various CPAs does not have age dependent performance hence, stratification on the basis of age is not deemed applicable.

Documentation provided by project participant

PoA 9948_MP2_Norway 1B Nigeria MR ver 2.1_14052020
PoA 9948_MP2_Norway 1B Nigeria ER Sheet_ver 2.1_14052020

DOE assessment **Date:** 26/05/2020

1. PP has revised the values in the MR (Version 2.1) for both parameters 'Operational Unitsi' (95.45%) and Water Quality (0.96) in-line to the ER sheet (Version 2.1). PP has also, revised the text mentioned in row 25 of the Sample Size Calculation worksheet as "Operational unitsi". The information was found to be correct. (Closed)
2. The CME has now included the dates of monitoring under section E.3 of the revised MR (version 2.1). The dates were checked with the survey forms and it was confirmed that the surveys have been conducted with the period mentioned in the revised MR.

3. The installed project devices have been sampled by applying stratified random sampling for the current monitoring period on the basis of the technology distributed. As per the assessment of the CPA sales database sheet it was found out that a desired number of samples were drawn from each stratum of applied technology and in-line to the registered monitoring plan the sampling was based on the technology type and not based on age or vintage of WPS unit. Also, the applied methodology AMS-III.A.V version 4.0, does not have any provision to consider the vintage.

Thus, the clarification provided by PP was found to be justified.

Thus, the CL is closed.

CL ID	05	**Section no.**	E.3.6.1.	**Date :** 30/07/2020

Description of CL

1. It is not clear how the CME calculated the reliability/achieved precision.

For example, the formula in spreadsheet Sample size calculation in cells D28 and D29 are not in line with the provision as per the appendix 4 of the Guideline: Sampling and surveys for CDM project activities and PoAs (v.4), as it is observed that the formula in cell D28 does not include z-value but include a factor 0.5, and formula in cell D29 compares the achieved precision with z-value. Refer to paragraphs 346 – 347 of the VVS for PoA v2.1:

2. The PP is requested to clarify the ER calculation in particular as below. Refer to paragraphs 359 – 360 of the VVS for PoA v2:
   a. In column AG of Sales Database spreadsheet, the value of "Cumulative treatment capacity of the system based on # units installed / supplied (Ltrs)" does not reflect the actual installed unit. For example, it is observed that the S.No. 6164 and S.No. 6221 have installed 3 and 2 UltraFLO units (i.e $T_{y,i}$ = 3 and $T_{y,i}$ = 2) respectively, but the respective cells AG5434 and AG5489 show the cumulative treatment capacity only based on one unit, i.e. 340,000 L.
   b. In column AC of Sales Database spreadsheet, the value for UltraTAB is always 1 regardless the number of units supplied shown under column E and the UltraTAB is the only type to apply the value column E to the column AG calculation (for example, the S.No. 5740 and S.No. 5741).
   c. The formula in column AD of Sales Database spreadsheet includes figures "3050" and "3185" which purpose is not explained.
   d. The verification report page 36 states that "the CME has also applied formula in the ER sheet to ensure that the $N_{y,i}$ multiplied by $R_{y,i}$ does not exceed the maximum output of the unit [per unit]" as per the same provision reported in the monitoring report page 21. However, it is not clear how and where such provision has been applied in the ER sheet.
   e. The operation days considered in the ER calculation includes non-school days. However, the ER calculation considers both boarding and non-boarding persons.

Project participant response **Date :** 10/08/2020

1. The formula in worksheet "Sample size calculation" cell D28 has been rectified in line with eq. 42, page 89 of the Guideline: Sampling and surveys for CDM project activities and PoAs (v.4). Similarly, cell D29 in the worksheet "Sample size calculation" has been rectified to compare the achieved precision with the applicable precision limit (10%). The revised ER Sheet and MR are being submitted.

2. a) In case of multiple units of UltraFLo or Multi Barrier UV systems installed in an institution, it is deemed that the units will be used simultaneously (or in parallel) to service different persons and areas in that institution. Thus, in such cases, $N_{y,i}$ has been calculated as number of persons serviced / unit (refer "Sales Database" for S. No. 6164, for example where AD5434 = K5434 / AC5434).
   Accordingly, in column AG of the worksheet "Sales Database", the "Treatment capacity of a unit (based on installation + subsequent supplies) (Ltrs)" has been determined for a singular unit.
   This ensures consistency wrt application of $N_{y,i}$ calculated in AD5434 and for determining other values in cells AK5434 and AO5434 which determine the number of days the systems are expected to run continuously if used simultaneously (based on individual capacity of system and average number of persons serviced per system).
   The aforesaid approach has been incorporated in the ER sheet to ensure ($N_{y,i} * R_{y,i}$) per unit does not exceed the maximum output of unit system for cases where multiple systems are used simultaneously as explained in 2d below.

Consideration of aggregate capacity of all systems in Cell AG5434, would over-calculate the maximum output/system and would result in over-estimation of emission reductions.

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

b) Please refer registered CPA-DDs 9948-P1-0005-CP1 to 9948-P1-0013-CP1, page 15, "Additional comment" under parameter table for $T_{y,i,}$ which states the following:

> *In case of Ultra tabs, parameter Ty,i shall be the number of institutions where Ultra Tabs are being supplied. Thus, each school receiving Ultra tab will be counted as one unit, for the purpose of determining Ty,i. As Ultra tabs get consumed over time, institutions will receive regular supplies to ensure continuous disinfection. The total number of Ultra Tabs supplied to a given institution shall also be monitored and documented (to ensure capping of Ny,i * Ry,i as explained in the following table for Ny,i).*

Thus, in line with aforesaid, the PP has monitored the total number of UltraTAB units initially supplied to an institution in column E and subsequent supplies in column R: AA. Further, in column AG, each institution receiving UltraTAB system has been counted as singular unit for determining $T_{y,i}$. This has been specified in additional comments section of parameter $T_{y,i}$ in MR, page 20.

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

c) The emission reduction generated by each water purification system is limited to 600 tCO_2e / annum in line with the eligibility criteria #16 for inclusion of a CPA in the PoA. Thus, to ensure compliance with the aforesaid, the CPA-DDs have put a cap on $N_{y,i}$ as follows:

CPA number	Cap on $N_{y,i}$	Reference
9948-P1-0003-CP1	3,050	Page # 6 of included CPA-DD
9948-P1-0005-CP1 to 9948-P1-0013-CP1	3,185	Page # 6 of included CPA-DDs

Hence, the formula in column AD in worksheet "Sales Database" includes the aforesaid cap to ensure that no system generates more than 600 tCO_{2e} / annum in line with registered PoA/CPA-DDs.

d) Please note, that the registered monitoring plan mandates to limit $N_{y,i}$ * $R_{y,i}$ at maximum output of unit [per unit].
The $N_{y,i}$ (per unit) * $R_{y,i}$ (Average Volume of drinking water per person per day) has been calculated in column AF of worksheet "Sales Database".

The treatment capacity (per unit) has been calculated in column AG. In Column AI, continuous running end date of a system has been determined based on treatment capacity of a unit divided by ($N_{y,i}$ (per unit) * $R_{y,i}$). Thus, continuous running end date is then used to determine the residual capacity of the system after the end of monitoring period.

A residual capacity of 0 indicates that the system was fully consumed before the end of monitoring period. This automatically ensures that $N_{y,i}$ * $R_{y,i}$ never exceeds the maximum output capacity of the system. A non-zero residual capacity shows that the output capacity of the system is more than $N_{y,i}$ * $R_{y,i}$ leaving some un-utilized capacity at the end of monitoring period.

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

e) 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:

I. The number of days of operation is mentioned as 365 days in the registered PoA-DD (refer equation 1.a. on page 70 and page 101 of the registered PoA-DD). Similarly, the CPA-DDs

also mention 365 days of operation in the ER formulae.

II. Besides, the number of days of operation is neither an ex-ante parameter not an ex-post monitoring parameter as per the monitoring methodology or the registered monitoring plan in the PoA-DD.

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 conservative cap of 2L/person/day (for days school) and 3.5L/person/day (for boarding schools /prison). These limits are already attributed to minimum survival levels advocated by WHO (Minimum water quantity needed for domestic uses, Technical Note No. 9, WHO/SEARO Technical Notes for Emergencies). Table 1 of the referred document mentions that minimum survival allocation for domestic use (i.e. full day service deemed equivalent to boarding schools and prisons) as 7 l/capita/day (sustainable only for few days), out of which 3-4 ltr is attributed solely for drinking. For schools, it specifies 2 ltr per student per day as the minimum requirement. Also, Water, Sanitation and Hygiene Standards for Schools in Low-cost Settings, published by WHO specified a basic water requirement of 5 l/per/day for day / non-residential schools and 20 ltr/per/day for boarding schools (Page 18, Water, Sanitation and Hygiene Standards for Schools in Low-cost Settings, Indicators for Guidelines). Thus, a consideration of 2 ltr/per/day for day schools and 3.5 ltrs/per/day for boarding schools/prisons is already referring to minimum survival levels and is overly conservative and deemed applicable to entire year.

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

Documentation provided by project participant

PoA 9948_MP2_Norway 1B Nigeria MR ver 3.0_
PoA 9948_MP2_Norway 1B Nigeria ER Sheet_ver 3.0

DOE assessment	**Date:** 11/08/2020

1. CME has rectified the formula in cell D28 of the Sample Size calculation worksheet of ER sheet (Version 3.0). The rectification of formula in cell D28 was found to be made in-line with the eq.42 (on page 89) of the Guideline: Sampling and surveys for CDM project activities and PoAs (v.4).
   Also, Cell D29 of the 'Sample size calculation" sheet was found to be rectified and reflects the comparison of the achieved precision with the applicable precision limit of 10%.
   The revisions in the sample size calculation sheet were found to be made in-line with the provisions stated in the appendix 4 of the Guideline: Sampling and surveys for CDM project activities and PoAs (v.4).

2. a. The "Treatment capacity of a unit (based on installation + subsequent supplies) (Ltrs)" (in column AG of sales database) reflects treatment capacity for one unit only, in case of institutions with multiple units. This is deemed in sync with the parameter 'Ny,i' found to be calculated as Numbers of persons serviced / unit as verified from column AD of the 'Sales database sheet'.

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

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

   b. The number of units (under column AC of sales database worksheet) distributed (Ty,i) for Ultra Tab system was found to be 1 for all the institutions. It is in line with the additional comment under parameter table of 'Ty,i'of the referred registered CPA-DDs 9948-P1-0005-CP1 To 9948-P1-0013-CP1, page 15 that in case of Ultra Tabs the value of parameter Ty,i shall be the number of institutions where the Ultra Tabs were being supplied i.e. each institutions to be counted as 1. Due to the consumption of the Ultra Tabs

over time, CME ensured that there would be continuous disinfection through regular supplies of the Tablets to these institutions.

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

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

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

The capped value for Ny,i was found to be 3050 persons /unit (for CPA-9948-P1-0003-CP1) and 3185 persons /unit (for CPA-9948-P1-0005-CP1 to 9948-P1-0013-CP1) as verified from page 6 of the respective included CPA-DDs.

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

d. As per the registered monitoring plan, the value of Nyi*Ry,i should not exceed the maximum output of the unit (per unit). The calculation of Ny,i* Ry,i provides the total volume of drinking water consumption per day per unit under column AF of the Sales Database Worksheet.

In order to ensure that the system does not exceed maximum output of the unit, CME has calculated the treatment capacity of the system (per unit) under column AG. The treatment capacity value was then divided by the calculated value of (Ny,i (per unit) * Ry,i) of the unit to determine the continuous running end date of a system (under column AI).

The residual capacity of the system after the end of monitoring period is determined through the continuous running end-date. The residual capacity of 0 reflected the complete consumption of system ensuring Ny,i* Ry,i value has not been exceeded whereas the non-zero value were indicative of the un-utilized system capacity by the end of the monitoring period (as evident from the column AK of Sales database sheet).
Thus, this approach of CME was found to be acceptable as it ensured that Ny,i * Ry,i never exceeds the maximum output of the unit [per unit] which was found to be in-line with the registered monitoring plan.

e. CME has applied the value of 365 for the number of days of operation for the project units, which was found to be acceptable because of following justifications provided :

I. Both PoA-DD and the CPA-DDs mention 365 days as the number of days of operation as verified from page 70 and page 101 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 subsequent versions of the applied methodology (AMS-III AV. Version 08.0) was 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 thesevalue were found to be meeting the minimum survival levels set by WHO. As per Technical Notes for emergencies by WHO , the minimum survival capacity has been allocated as 7 l/capita/day (sustainable only for few days), out of which 3-4 ltr is attributed solely for drinking. For schools, it specifies 2 ltr per student per day as the minimum requirement. Also, minimum requirement for day schools were found to be 5l/person/day and 20l/person/day as verified from water sanitation and Hygiene standards for Schools in Low-cost settings by WHO.

Thus, following the above set levels CME's approach of considering 2 ltr/per/day for day schools and 3.5

ltrs/per/day for boarding schools/prisons were found to be conservative and acceptable. This, approach has already been discussed and approved by CDM-EB as verified from DOE clarification 8 “FVR 599 CPA 5 to 13 PRC VR Nigeria 25.03.19 clean” Thus, CL#05 stands closed.

Table 3. CARs from this verification

CAR ID	01	**Section no.**	E.3.4.2, E.3.6.4	**Date :** 24/03/2020
Description of CL				
1.Achieved ERs mentioned in the MR (Version 1.0) was found to be inconsistent with the ER sheet (Tab: ER summary; Cell: O21). 2. Value of monitored parameter ‘QPW’ mentioned on page 20 of the Monitoring Report (Version 1) was found to be inconsistent with the ER sheet (Title: PoA 9948_MP2_Norway 1B; Version 1.0; Tab:ERs Summary; Cell: O8) 3.The date of last supply of catridge mentioned in the monitoring data sheet of ER sheet (Title: PoA_9948_MP2_Norway 1B) was found to be inconsistent with the date mentioned in the monitoring survey form provided by CME. 4. The UIDs in the ER sheet are inconsistent with monitoring survey form. For eg: UID mentioned in cell F57, worksheet “monitoring data”, ER sheet is inconsistent with the monitoring survey form.				
Project participant response				**Date :** 29/04/2020
1. The ER volume has been rectified in the revised MR, to be consistent with the submitted ER Sheet. Revised MR is being submitted. 2. Value of monitored parameter “QPW_y” has been rectified in revised MR. The value of QPW_y mentioned in the revised MR is now consistent with the submitted ER Sheet. Revised MR is being submitted. 3. The date of last supply of cartridge/tablets mentioned in the worksheet “Monitoring data” of ER sheet have been made consistent with the date of last supply of cartridge/tablets written in the concerned survey forms. The revised ER Sheet is being submitted. 4. The Unique Product IDs mentioned in the worksheet “Monitoring data” of ER Sheet have been made consistent with the Unique Product ID written in the Survey Forms. The revised ER Sheet is being submitted.				
Documentation provided by project participant				
PoA 9948_MP2_Norway 1B Nigeria MR ver 2.0_29042020 PoA 9948_MP2_Norway 1B Nigeria ER Sheet_ver 2.0_29042020				
DOE assessment				**Date:** 04/05/2020
1. The achieved ERs is now consistently mentioned in the MR Version 2.0, Dates:29/04/2020 and ER sheet (Title:9948_MP2_Norway 1B Nigeria ER sheet_ver.2.0_29/04/2020). 2. PP has now revised the value of monitored parameter “QPW_y”in the MR version 2.0 which is now consistent with the value mentioned in the ER sheet (Title:9948_MP2_Norway 1B Nigeria ER sheet_ver.2.0_29/04/2020). 3. PP has now revised the date of last supply of cartridge /tablets in the worksheet “Monitoring Data” of ER sheet, making it consistent with the dates mentioned in the respective survey forms. 4. PP has now made UIDs consistent in the monitoring data sheet of the ER sheet (Title:9948_MP2_Norway 1B Nigeria ER sheet_ver.2.0_29/04/2020) to the monitoring survey forms. Thus, CAR#01 stands closed.				

CAR ID	02	**Section no.**	E.3.4.3, E.3.4.2	**Date :** 13/05/2020
Description of CAR				
1. Caption of Section E.3 of the MR is truncated. Please correct. 2. Given that the parameter f_{NRBy} is being defined as parameter to be monitored annually or at least				

biennial in the CPA DD, how the value applied from a source that dates 2012 is deemed appropriate. Please also consider the point (a) mentioned at https://cdm.unfccc.int/DNA/fNRB/index.html while responding to the issue.

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

Project participant response	**Date :** 14/05/2020

1. Caption of section E.3 of the MR has been corrected.

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

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

Documentation provided by project participant
PoA 9948_MP2_Norway 1B Nigeria MR ver 2.1_14052020

DOE assessment	**Date:** 26/05/2020

1. Section E..3 caption has now been revised in the MR (Version 2.1). The caption is exactly same as the MR template present on UN website. Thus, the distortion in the template has been corrected now. (Closed)

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

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

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

CAR ID	03	**Section no.**	E.3.1	**Date :** 13/05/2020

Description of CAR
Section C.1, as per foot note 13 it has been stated that the ERs for first year of the current monitoring period (from 23/05/2017 to 22/05/2018) are not being claimed. In absence of the reason no categorization of BE, PE, LE for this period, it is not clear as why it was not proposed through post registration changes e.g., temporary deviations in case monitoring was not done and how the project emissions for multiple barrier UV

were accounted for the same duration. In absence of PRC, it is not clear as how the discounting of ERs is in line to registered monitoring plan.
Project participant response **Date :** 14/05/2020
No CERs are being claimed for the period 23/05/2017 to 22/05/2018 in absence of monitoring data for that period. The CME has considered the baseline emissions as zero in line with para 228(b)(i) of PS for PoA version 2.0, for the period (23 May 2017 – 22 May 2018). This has been duly specified in the revised monitoring report in section C.3.1. The project emissions are accountable only in case of Multi barrier UV. Please refer the revised "ERs Summary" cell E19, where it has been calculated for entire two-year monitoring period in line with registered PoA/CPA-DDs.
Documentation provided by project participant
PoA 9948_MP2_Norway 1B Nigeria MR ver 2.1_14052020 PoA 9948 MP2 Norway 1B Nigeria ER sheet version 2.1 14052020
DOE assessment **Date:** 25/06/2020
PP has now proposed the temporary deviation in the monitoring plan for the duration (23 May 2017 – 22 May 2018) of 1 year during the current monitoring period for not being able to temporarily follow the monitoring plan for that period. The CME has followed para 228(b)(i) of PS for PoA, Version 2.0 and considered baseline emissions for the mentioned period of the MP as zero and the same has been added under section C.3.1. of the monitoring report (Version 2.1). The deviation was found to be in line with the PS for PoA and has been assessed in detail in the PRC validation opinion. The project emissions are to be considered only in the case of Multi barrir UV filters. The CME has calculated project emissions for entire monitoring period under verification i.e. 2 year in-line to the registered PoA-DD and CPA-DD and have added the revised value to the ER sheet (Version 2.1) and MR (Version 2.1).(Closed). The calculation was found to be conservative and has been discussed in detail in the PRC validation opinion. Thus, the CAR is closed.

Table 4. FARs from this verification

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

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Document information

Version	*Date*	*Description*
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the "CDM validation and verification standard for programmes of activities" (CDM-EB93-A08-STAN); • Make structural and editorial improvements.
02.0	29 December 2017	Revision to align with the requirements of the "CDM validation and verification standard for programme of activities" (version 01.0).
01.0	5 June 2015	Initial publication.

Decision Class: Regulatory
Document Type: Form
Business Function: Issuance
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