
 Verification and certification report form for CDM programme of activities (version 02.0)		
Complete this form in accordance with the Instructions attached at the end of this form.		
BASIC INFORMATION		
Title and UNFCCC reference number of the programme of activities (PoA)	Impact Carbon Global Safe Water Programme of Activities (PoA) UNFCCC ID: PoA 9948 TN P-No. : 8000477727 – 17/141	
Version number(s) of the PoA-DD(s) to which this report applies	3.0	
Version number of the verification and certification report	1.0	
Completion date of the verification and certification report	25/10/2018	
Monitoring period number and duration of this monitoring period	9948-MP1-MRP1 30/05/2014 – 22/05/2017 ¹ (both days included)	
Number and version number of the monitoring report to which this report applies	First Monitoring Period, version number 4.0	
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)
	Uganda	Yes
	Rwanda	No
	Nigeria	No
	Kenya	No
Applied methodologies and standardized baselines	AMS-III.AV ver 04.0: Low greenhouse gas emitting safe drinking water production systems Standardized baselines: N/A	
Mandatory sectoral scopes linked to the applied methodologies	Scope: 3 : Energy demand	
Conditional sectoral scopes linked to the applied methodologies, if applicable	-	
Estimated amount of GHG emission reductions or GHG removals for this	24,877 tCO _{2e}	

¹ Please refer closure of CAR 01, DOE Assessment Round -2
Version 02.0

monitoring period in the included CPAs covered in this report	
Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs covered in this report	64,474 tCO _{2e}
Name and UNFCCC reference number of the DOE	TÜV NORD CERT GmbH (TÜV NORD) / (E-0022)
Name, position and signature of the approver of the verification and certification report	 Final Approver Stefan Winter

SECTION A. Executive summary

The Impact Carbon has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st verification of the CDM Programme of Activities (CDM-PoA-9948):

“Impact Carbon Global Safe Water Programme of Activities (PoA)”

with regard to the relevant requirements for CDM PoAs.

This verification covers the monitoring period from 30/05/2014 to 22/05/2017 (including both days).

The PoA involves distribution of low greenhouse gas emitting safe drinking water purification systems (WPS) across the identified host countries. The safe potable water is delivered to the end users after ultraviolet disinfection. The CPAs under the PoA result in reduction and replacement of the amount of non-renewable biomass or fossil fuels which are traditionally used for boiling the water to make it suitable for drinking purposes, in the baseline. Thus, in absence of CPAs under the PoA, the usage of fuel wood and other fossil fuel would have continued for boiling water to make it suitable for drinking purposes.

Details of the PoA location are given in Table A - 1 below:

Table A - 1: Project Location

No.	Project Location		
CPA # 002	9948-0002		
Host Country	Uganda		
Region:	All the regions covered by installed WPS in Uganda		
Project location address:	districts in Central 1 and Southwest Regions of Uganda		
Geo coordinates:			
	Latitude	Longitude	
Entebbe	0.059953	32.485199	
Mbarara	-0.584154	30.635376	
Bombo	0.565315	32.54837	

Basic technical details of the PoA are summarized in **Fehler! Verweisquelle konnte nicht gefunden werden.** below.

This Programme of Activities consists currently of a total of 22 included CPAs of which only 3 were included in the PoA by the end of applied monitoring period and of which only one CPA, CPA02 is included in this Monitoring period. The included CPA 2 is briefly described as following:

CPA-02

CPA 2 involves marketing, distribution and creating awareness for institutional water purification systems (WPS) for the institutions like school, hospital, etc. within the geographical boundary of Uganda. Until the end of the applied monitoring period total 580 institutional water filters were installed.

The key parameters of the CPA 2 are given in Table A-2.1 below:

Table A-2.1: Technical data of the component project activity

Parameter	Unit	Value
Manufacturer	-	Nandadeep
No. of units		580
Filtration capacity range	L/hr	300-700
Fixed or portable	-	Fixed
Removal of E.coli		99 (4-log)
Wattage	Watt	14
Lifetime	Years	10

As a result of this verification, the verifier confirms that:

- all WPS under the project are implemented and installed as planned and described in the registered project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS-III.AV ver. 04.0
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

As the result of the 1st verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Emission reductions: 64,474 tCO₂e

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	Mishra	Prakash Kumar	TÜV NORD CERT	x	x	x	x
2.	Team Member	EI	Thanekar	Swapnil	-	x	-	-	x

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	Winter	Stefan	TÜV NORD CERT
2.	Observer Reviewer	OR	Zhao	Xuejiao	TÜV NORD China
3.	Approver	IR	Winter	Stefan	TÜV NORD CERT

SECTION C. Application of materiality in conducting the verification**C.1. Consideration of materiality in planning the verification**

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

Materiality Threshold

The verification is based on the materiality threshold identified in table C-1 below:

Table C-1: Applied Materiality Threshold

	Threshold	Related to
<input type="checkbox"/>	0.5 %	Emission reductions or removals for registered CDM project activities achieving a total emission reduction or removal equal to or more than 500,000 tonnes of carbon dioxide equivalent per year ² ;

² A year refers to a period of 12 consecutive months.

	Threshold	Related to
<input type="checkbox"/>	1 %	Emission reductions or removals for registered CDM project activities achieving a total emission reduction or removal of between 300,000 and 500,000 tonnes of carbon dioxide equivalent per year;
<input type="checkbox"/>	2 %	Emission reductions or removals for registered large-scale CDM project activities achieving a total emission reduction or removal of 300,000 tonnes of carbon dioxide equivalent per year or less;
<input checked="" type="checkbox"/>	5 %	Emission reductions or removals for registered small-scale CDM PoA other than registered CDM PoA covered under next category below;
<input type="checkbox"/>	10 %	Emission reductions or removals for the type of registered small-scale CDM PoA referred to in decision 3/CMP.6, paragraph 38 (referred to as microscale project activities).

Strategic Analysis

At the beginning of the verification the verification team leader has assessed the nature, scale and complexity of the verification tasks by carrying out a strategic analysis of all activities relevant to the project activity. The team leader has collected and reviewed the information relevant to assess that the designated verification team is sufficiently competent to carry out the verification and to ensure that it is able to conduct the necessary risk analysis.

Risk analysis and detailed audit testing planning

For the identification and assessment of potential reporting risks and to determine the necessary detailed audit testing procedures for residual risk areas the following table is used.

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.	Analysis and transfer of data from, sales records (supported by Sales receipts, Installation forms), Water Quality Testing Reports, Sampling Surveys (for each technology type), international reports (with traceability) which are utilized for determination of the parameter $f_{NRB,y}$, Biennial sampling results, Sales invoices database, Sampling surveys, Surveys Records, UNHS, Household Survey Report 2016/17 for parameters under monitoring, to MR and excel ER spreadsheet.	Low	Human error during transfer of data from various sources reports/sheet for BE, PE and ER calculations	Thorough cross-check and assessment required on the generation and transfer of data to the ER spreadsheet. Assessment of Quantity of purified water in year y (litres), Total distributed water purification systems, The average population serviced by water purification systems, Water quality measurement, proportion of units found in use, Fraction of woody biomass used in the absence of the project activity in year, y, that can be established as non-renewable, Efficiency of water boiling system being replaced, Existence of public distribution network of safe drinking water and

				appropriateness of sampling plan etc
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On the basis of the risk analysis, the verification has been planned. A detailed audit / verification plan has been prepared and submitted to the project participant(s) in due time before the site visit.

C.2. Consideration of materiality in conducting the verification

Based on the verification planning, verification process is carried out. The concept of materiality considered during the verification process. A breakdown of the chosen approaches is included in the following table.

<i>Parameter</i>	<i>Approach*</i>	<i>Errors* detected</i>	<i>Findings reference</i>	<i>Corrected</i>	<i>Remaining verification risk</i>
QPW _y (Quantity of purified water in year y (litres))	SPL	<input checked="" type="checkbox"/>	CAR 02	<input checked="" type="checkbox"/>	Not material
T _{y,i} (Total distributed water purification systems)	CDC	<input checked="" type="checkbox"/>	CAR 02, CAR 05	<input checked="" type="checkbox"/>	Not material
N _{y,i} (The average population serviced by water purification systems)	CDC	<input checked="" type="checkbox"/>	CAR 02, CAR 05	<input checked="" type="checkbox"/>	Not material
Water Quality _i (Water quality measurement)	SPL	<input checked="" type="checkbox"/>	CAR 02, CAR 03 CAR 05	<input checked="" type="checkbox"/>	Not material
Operational Units _i (proportion of units found in use)	SPL	<input checked="" type="checkbox"/>	CAR 02, CAR 03 CAR 05	<input checked="" type="checkbox"/>	Not material
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)	CDC	<input checked="" type="checkbox"/>	CAR 02, CAR 05	<input checked="" type="checkbox"/>	Not material
η _{wb} (Efficiency of water boiling system being replaced)	CDC	<input checked="" type="checkbox"/>	CL 01, CAR 02	<input checked="" type="checkbox"/>	Not material
EF _{projected_fossilfuel} (Emission factor as per AMS-I.E procedures when NRB is displaced or the emission factor of the fossil fuel)	CDC	<input checked="" type="checkbox"/>	NA	<input checked="" type="checkbox"/>	Not material

substituted)					
Existence of public distribution network of safe drinking water (Existence of public distribution network of safe drinking water in year y)	SPL	<input checked="" type="checkbox"/>	CAR 02, CAR 03 CAR 05	<input checked="" type="checkbox"/>	Not material
$ECPJ_{j,y}$ (Quantity of electricity consumed by the project electricity consumption source j in year y)	CDC	<input checked="" type="checkbox"/>	CAR 01, CAR 02,	<input checked="" type="checkbox"/>	Not material
Aggregate					Materiality threshold not exceeded

*) incl. omissions and misstatements

*) Verification Approaches:

CDC: Complete data check of data including all data aggregation steps

NDC: Non-complete data check – omissions not material

SPL: Sampling approach (all data available)

ASP: Acceptance Sampling

COM: Data check at higher data aggregation levels and sampling at original data levels

For above mentioned risk mentioned under above table under section C.1, verification team has conducted a thorough cross check and verification as follows:

1. Analysis and transfer of data from, sales records, usage Survey, water quality testing report to MR and excel ER spreadsheet:

Total sales record presented in ER calculation spreadsheet and MR were assessed and verified with the data management system at CME office/premise during onsite verification audit. CME conducts sampling surveys, to determine proportion of WPS operational units in use over the monitoring period, proportion of WPS installed providing safe water quality and the Existence of public distribution network providing safe drinking water, at every other year in accordance with registered monitoring plan (biennial monitoring).

Other parameters providing total water purified i.e. number of people served by the distributed water purification systems and the distribution of non-barding and boarding persons were verified by the Verification team by assessing the XLX worksheet containing records of project sampling survey and sales database with original records. The onsite observation and values presented in the ER calculation worksheet are found to be consistent by the verification team.

In addition to this, verification team has assessed the value of different parameters under monitoring (Percentage of deployed water purification systems remain in use in year y, number of persons served by the water purification system, quantity of water purified by the WPS under monitoring, survey results presented for water quality testing and water purified over the monitoring period, and existence of public distribution network providing safe drinking water were assessed and compared with onsite visit observations and interview response by the project technology users. During course of verification, CAR 02 and CAR 03 were raised and were subsequently closed based on appropriate justification provided by the PP and submission of revised MR and ER sheet. For more detail please refer Appendix-4 of this report.

Based on above, Verification team can conclude that data presented in the MR for the applied monitoring period and data presented in the ER calculator spreadsheet is accurate, correct and acceptable.

SECTION D. Means of verification

D.1. Desk/document review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the PoA-DD including the monitoring plan^{/PoA-DD/},
- the last revisions of the CPA-DDs^{/CPA-DD/},
- the last revision of the validation report^{/VAL/},
- CPA inclusion reports
- the monitoring report, including the claimed emission reductions for the PoA^{/MR/},
- the emission reduction calculation spreadsheet^{/XLS/}.

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed.

D.2. On-site inspection

Duration of on-site inspection: 28/11/2017 to 02/12/2017				
No.	Activity performed on-site	Site location	Date	Team member
1.	Travel to the site	Kampala, Uganda	27/11/2017	PKM
2.	Opening meeting	Kampala, Uganda	28/11/2018	
3.	Quality assurance			
4.	ER and PE calculation review			
5.	Visiting the boarding and non-boarding schools, interview with principal and school staff including students	Different parts of Uganda	28/11/2017-01/12/2-17	
6.	Interview with CME / representatives			
7.	Evidence assessment			
8.	Data check against supporting documents			
9.	Data collection, aggregation and processing			
10.	Presentation of findings	Kampala, CME office	02/12/2017	
11.	Closing meeting			

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Haigler	Evan	CEO, Impact carbon	28/11/2017-02/12/2017	CPA development, monitoring report, training, survey, ER Calculations, raw data, sales database	PKM
2.	Brawn	Julie	Country Director, Impact water	28/11/2017-02/12/2017	Sales databases, management of records and transcription from database to ER sheet	
3.	Kaswa	Brian	Impact Carbon	28/11/2017-02/12/2017	Data monitoring, sales and maintenance	
4	Lohia	Rohit	Consultant, Climate Secure Services	28/11/2017-02/12/2017	MR, ER sheet and other aspects of verification	
5	Akankunda	Moreen	Impact Water	28/11/2017-02/12/2017	Data monitoring, sales and maintenance	
6	High School	Kakoola	Boarding/non-boarding schools	28/11/2017-02/12/2017	Usage of the water filtration devices, baseline water source for drinking purposes, date of installation, operation and maintenance and survey related verification.	
7	Secondary School	Wampeewo Ntake				
8	College	Comprehensive				
9	Primary and Secondary School	Goshen				
10	Primary School	Luweero SDA				
11	Nursery and Primary School	Christ The King				
12	Primary School	Erina bright				
13	Academy	St. James				
14	Junior School	Namungoona Parents				
15	Secondary	Kazo				
16	Primary School	Star				
17	Junior School	Hilmark				
18	Nursery and Primary School	Yet Happy Kids				

D.4. Sampling approach

D.4.1 Sampling during monitoring

<input type="checkbox"/>	No sampling approach has been used by the PP to determine the monitored parameters				
<input checked="" type="checkbox"/>	A sampling approach has been taken for the following monitored parameter(s):				
	Parameter	Sampling approach ¹⁾	Sampling Type ²⁾	Population	Sample Size
	Water quality	SiRS	PS	580	33
	Operational units	SiRS	PS	580	33
	Existence of public distribution systems	SiRS	PS	580	30

¹⁾Sampling Approaches:

SiRS: Simple Random Sampling
 StRS: Stratified Random Sampling
 SS: Systematic Sampling
 CS: Cluster Sampling
 MSS: Multi-stage Sampling

²⁾Sampling Types:

PS: Parameter Sampling

A representative sampling was adopted by the CME for Sampling of CPA 2 under monitoring. The sampling plan consisted of monitoring of the mainly following three parameters, however, remaining parameter mentioned in section D.2 of MR. are mainly dependent on these three monitored parameters:

Sl. No.	Parameter	Description of parameter
1	Water Quality _i	Water quality measurement
2	Operational_Units _i	proportion of units found in use
3	Existence of public distribution network of safe drinking water	Samples that have safe drinking water from public distribution network

Based on the registered monitoring plan, 95/10 reliability level is selected for CPA specific sampling for all the parameters at biennial monitoring frequency. The target population for the three parameters stated above are total Institutional Water purification systems (WPS) deployed till the end of monitoring period as recorded in the project database.

Simple Random Sampling approach was applied and samples were randomly selected by CME. As the target population (total number of distributed institutional water filtration units) is quite small with only one technology type, Simple Random Sampling approach is assessed to be acceptable.

The sampling approach adopted by CME is in accordance with the “Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities” and the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities” version 07.

Sampling Size:

Parameter	Total population (N)	Expected results	Reliability	Required Sample Size (n)	Monitored samples
Water Quality _i	580	0.95	95/10	20	33

Operational_Units _i	580	0.95	95/10	20	33
Existence of public distribution network of safe drinking water	580	0.95	95/10	20	30

The above table gives the number of samples covered during the current applied monitoring period for above parameters. The data presented to the verification team is cross verified with the ER spreadsheet containing, sample size calculation & reliability demonstration, and found in conformity with the onsite visit observations and interviews.

The ER spreadsheet, tab “Sample Size Calculation” provided by the CME demonstrates the calculation of sample size for each parameter under sampling, Biennial Monitoring frequency. The calculated sample size of the parameter of interests is 20 as per the sample size calculator, however, since the sampling parameters are proportion based parameters, hence PP has correctly sampled 33, 33 and 30 samples for “water Quality_i”, “operational Units_i” and “Existence of public distribution network of safe drinking water” respectively in accordance with § 12(b), 12(c) and §13 of the Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 07.0 and Guidelines for sampling and Survey for CDM project activities and programme of activities, Version 04.0.

For water quality_i parameter, a water quality measurement test was found performed by the CME using Aquagenix Water Testing Kit for TC isolation. Verification team interviewed the personnel involved in the water testing measurement and asked to live perform / demonstrate the procedure for water quality testing. Personnel interviewed, demonstrated the entire procedure appropriately in line with the requirements of national Standard US201:2008 of Uganda, substantiating that the monitoring team was adequately trained and was competent for conducting the monitoring.

For parameter Operational Units_i, a monitoring survey was performed to assess the percentage of the water purification system still operational. CME has appropriately selected 33 (being a proportional parameter minimum of 30 samples are required in line with para 13 of the Sampling Standard) samples. Simple random selection procedure is as per the requirements laid down under Standard: Sampling and surveys for CDM project activities and programmes of activities, for the concerned parameters. Subsequently, CME has assumed, any sample found not operational during the monitoring survey, to be out of use for the entire monitoring period and hence conservatively applied the % of monitoring period for which the unit is under operation as zero for un-operational WPS samples. The percentage of samples found operational during survey was 96.97 % were applied for the parameter value which is verified to be in conformity with Sampling Survey data.

For parameter “Existence of public distribution network of safe drinking water”, a monitoring survey was performed to assess the Existence of public distribution network of safe drinking water in year y. CME has conducted a biennial Survey of institutions/schools to analyse if there is an existence of public distribution network in the sampled schools. Out of 33 samples surveyed only 30 samples were connected to a public distribution network. An assessment of these 30 schools for providing safe drinking water without the project WPS was conducted by CME (using Aquagenix TC Testing kit) and the results obtained were used to discount the ER accordingly.

Reliability check performed by the CME in the ER calculator spreadsheet was assessed by the verification team and observed that all the parameters of sampling meet the required precision i.e. 95/10 which is in compliance with the registered monitoring & sampling plan of the registered PoA.

The following tables demonstrate the status of precision/confidence for each of the monitored parameters:

Water Quality_i	1.0000	Fraction
Population Size	580	number
Sample Size	33	number
Proportion for Water Quality	1.000	Fraction
Standard error of proportion for Water Quality	0.000	
Precision for Water Quality	0.00%	%
Result for Water Quality	PASS	--

Operational units_i	0.9697	Fraction
Population Size	580	number
Sample Size	33	number
Proportion for Operational units	0.97	Fraction
Standard error of proportion for Operational units	0.029	
Precision for Operational units	5.86%	%
Result for Operational units	PASS	--

Existence of public distribution network of safe drinking water	0.07	Fraction
Population Size	580	number
Sample Size	30	number
Proportion for UnSafe Water Distribution	0.933	Fraction
Standard error of proportion for UnSafe Water Distribution	0.044	
Precision for UnSafe Water Distribution	9.31%	%
Result for UnSafe Water Distribution	PASS	--

D.4.2 Sampling approaches during verification

<input type="checkbox"/>	No sampling approach has been used by the VT to verify the monitored parameters				
<input checked="" type="checkbox"/>	A sampling approach has been applied by the VT for the following monitored parameter(s):				
	Parameter	Sampling approach ¹⁾	Sampling Type ²⁾	Population (CME sample size)	DoE Sample Size
	Water Quality _i	SiRS	AS	33	8
	Operational_Units _i	SiRS	AS	33	8
	Existence of public distribution network of safe drinking water	SiRS	AS	30	8

¹⁾Sampling Approaches:

SiRS: Simple Random Sampling
 StRS: Stratified Random Sampling
 SS: Systematic Sampling
 CS: Cluster Sampling
 MSS: Multi-stage Sampling

²⁾Sampling Types:

AS: Acceptance Sampling
 PS: Parameter Sampling
 COM: Full data check at higher data aggregation levels and sampling at original data levels

During the on-site verification, a sampling approach has been applied by the verification team to verify the reported values for the monitored parameters QPW_y, T_{y,i}, N_{y,i}, Water Quality_i, Operational Units_i and existence of public distribution network supplying safe drinking water.

The verification team also interviewed surveyors including water sample collection procedures including water quality test performed during monitoring. Based on interview and assessment of sample survey report and data analysis, it can be concluded that sample selected and the results presented is in accordance with registered monitoring and sampling plan.

Since the CPAs included in the PoA implements technologies/measures with high degree of standardization, the verification team followed the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities” version 07, para 29 and 33, esp. taking a sample of the CME’s sample. 08 samples in total have been randomly selected by verification team using random excel function from the CME’s samples. Also, the verification team additionally assessed 05 samples, which were not part of CME samples but of the population (580) to further assess the implementation of the project and to confirm that the monitoring results are the representative of the entire population. Out of the 05 additional samples visited by the verification team to cross-check and to see if the CME sampling results are the representative and comparable to entire population. Based on that, verification team concludes that sampling results and value presented by CME in the MR and spread sheet is consistent with the onsite observation and interview with the end users.

VT has adopted the acceptance sampling in accordance with § 29 and 33 of the Sampling Standard by considering AQL 1%, UQL 20% (in line § 29 of Standard), producer risk 10% and consumer risk 20% (as per § 33 a) and § 33 c) have been adopted as per standard for sampling and survey for CDM project activities and programme of the activities version 07. Being this PoA in a LDC (host country of Uganda, which is in line with § 33 c) a total sample of 08 was required with “Acceptance number”, hence verification team has verified 08 samples from CME samples during onsite visit and result of the parameters monitored by sampling could be found in consistency. The list of interviewed end users/schools have been presented under section D.3 above. No CME sampling monitoring records/data results were found discrepant during the DOE verification site-visit. All the 08 samples visited by the verification team were reported as operational in CME monitoring records and were also found to be operational during onsite audit visit as well. The verification team also confirmed, by conducting interviews with the sampled school’s representatives and checking the school record, the total number of students and staff in the school (boarding/non-boarding). It was also confirmed by interview with the school representatives that water quality testing (before and after WPS installation point) was performed for the Water Purification System installed at the school. Further, the verification team reviewed all the primary monitoring records on-site to assess the consistency of information with ER calculation spreadsheet and found the monitoring data to be correctly transcribed into the ER sheet and MR.

Table 7: Applied sampling standard

AQL	1.0%
UQL	20%
Producer risk	10%
Consumer risk	20%
Sample size	08
Acceptance Number	0

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	1	1	-
Remaining forward action requests from validation and/or previous verification	-	-	-
CPA(s) 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	-	0	-
Post-registration changes	-	-	-
<ul style="list-style-type: none"> Temporary deviations from the registered monitoring plan, applied methodology or applied standardized baseline 	-	-	-
<ul style="list-style-type: none"> Corrections 	-	-	-
<ul style="list-style-type: none"> Inclusion of a monitoring plan 	-	-	-
<ul style="list-style-type: none"> Permanent changes to the registered monitoring plan or permanent deviation of monitoring from the applied methodology, standardized baseline or other applied standards or tools 	-	-	-
<ul style="list-style-type: none"> Changes to the programme design or project design 	-	-	-
<ul style="list-style-type: none"> Change of coordinating/managing entity 	-	-	-
<ul style="list-style-type: none"> Changes specific to afforestation and reforestation activities 			
Component project activities	-	-	-
Compliance of the CPA implementation with the included CPA design document	-	1	-
Post-registration changes	-	-	-
<ul style="list-style-type: none"> Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline 	-	-	-
<ul style="list-style-type: none"> Corrections 	-	-	-
<ul style="list-style-type: none"> Changes to the start date of the crediting period of component project activities 	-	-	-
<ul style="list-style-type: none"> Inclusion of a monitoring plan 	-	-	-
<ul style="list-style-type: none"> Permanent changes to the registered monitoring plan or permanent deviation of monitoring from the applied methodology, standardized baseline or other applied standards or tools 	-	-	-
<ul style="list-style-type: none"> Changes to the programme design of project design 	-	-	-
<ul style="list-style-type: none"> Changes specific to afforestation and reforestation component project activities 	-	-	-
Compliance of the registered monitoring plan with the methodology including applicable tool(s) and standardized baseline	-	-	-
Compliance of monitoring activities with the registered monitoring plan			
<ul style="list-style-type: none"> Data and parameters fixed ex ante or at renewal of crediting period 	-	-	-
<ul style="list-style-type: none"> Data and parameters monitored 	-	2	-
<ul style="list-style-type: none"> Implementation of sampling plan 	-	-	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	-	-	-
<ul style="list-style-type: none"> Calculation of baseline GHG emissions or baseline net GHG removals by sinks 	-	2	-
<ul style="list-style-type: none"> Calculation of project GHG emissions or actual net GHG removals by sinks 	-	-	-
<ul style="list-style-type: none"> Calculation of leakage GHG emissions 	-	-	-

<ul style="list-style-type: none"> Summary of calculation of GHG emission reductions or net GHG removals by sinks 	-	-	-
<ul style="list-style-type: none"> Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA 	-	-	-
<ul style="list-style-type: none"> Remarks on difference from estimated value in included CPA 	-	1	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Others (please specify)	-	-	-
Total	1	6	0

SECTION E. Verification findings

E.1 General

E1.1 Compliance of the monitoring report with the monitoring report form

Means of verification		<p>A draft monitoring report was submitted to the verification team by the project participants. The DOE has made this report publicly available prior to the start of the verification activities. No comments were received.</p> <p>By means of the UNFCCC website it has been checked whether the latest applicable MR template CDM-PoA-MR-FORM has been used.</p> <p>Further it has been checked whether the latest instructions for filling out the MR template have been followed. Every section has been checked against the respective guidance.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /MRT/ • /unfccc/
Findings	<input checked="" type="checkbox"/>	The latest reporting template CDM-PoA-MR-FORM as listed on the UNFCCC website has been used for the Monitoring Report to be uploaded.
	<input type="checkbox"/>	The latest instructions for filling out the MR have been followed. No adverse finding has been identified in the course of this verification.
	<input checked="" type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>CAR 01</p>
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The CME has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		The latest monitoring report form has been utilized by the PP. Finding CAR 01 was raised as regard to some editorial and formatting mistakes found in the MR version 01. The CME had made appropriate revisions to the information in the revised MR Therefore, the monitoring report is complete and transparent and has been filled in accordance with the latest guidelines for completing the monitoring report form. ^{/MR/}

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

During the validation the validating DOE might have raised issues that could not be closed or resolved during the validation stage. For this purpose FARs might have been raised.

Likewise FARs might have been raised in the course of previous verifications.

In the course of this verification the latest version of the PDDs^{/POA-DD/} and the previous verification reports^{/VER/}, where applicable, have been checked in order to identify any remaining forward action requests. For the current monitoring period the following applies:

(i) Open issues from validation:

<input checked="" type="checkbox"/>	There were no open issues which have been addressed in the latest version of the validation report.
<input type="checkbox"/>	All open issues from the validation have been appropriately addressed in the context of previous verifications.
<input type="checkbox"/>	All issues related to the validation have been appropriately addressed in the course of the current monitoring period (for details please refer to appendix 4)
<input type="checkbox"/>	The following issues related to the validation have not yet been appropriately addressed (for details please refer to appendix 4):
	- N/A

(ii) Open issues from previous verifications:

<input checked="" type="checkbox"/>	N/A – as this is the first monitoring period for this CDM project activity.
<input type="checkbox"/>	There were no open issues which have been addressed in the previous verification report
<input type="checkbox"/>	All issues related to the previous verification have been appropriately addressed in the course of the current monitoring period (for details please refer to appendix 4)
<input type="checkbox"/>	The following issues related to the previous verification have not yet been appropriately addressed (for details please refer to appendix 4):
	- N/A

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 9948-0001	No	01 May 14	3.0 ³	N
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 2 9948-0002	Yes	01 May 14	3.0	Y
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 3 9948-0003	No	08 May 17	3.0	N

E.2 Programme of activities**E.2.1 Compliance of the programme implementation with the registered programme design document**

Means of verification	<p>By means of an in-depth review of the PoA-DD in its latest form – as downloaded from the UNFCCC project site - and the checks carried out during the on-site visit an assessment has been carried out whether the project has been implemented and operated in line with the latest approved version of the PoA-DD and whether all physical features of the project are in place. The following has been checked: implemented technology, project equipment as well as monitoring and metering equipment.</p> <p>Further is has been checked if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period and consistent notations of key equipment (meters etc.) in PoA-DD, MR and calculation spreadsheet are applied.</p>
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³ The latest version of the approved PoA-DD is version 7.0. However, the CPAs covered in this monitoring report were included under version 3.0 of the PoA-DD i.e. before approval of PoA-DD version 6.1 through PRC9948-0001 on 08 May 2017.

	<p>Interviews with operational personnel have been carried out, QMS records, maintenance records, instrument specifications were checked in this context. Special focus has further been laid to determine whether a potential phase wise implementation has occurred within the crediting period or any delays with respect to the starting dates have occurred.</p> <p>Further it has been checked whether any observed deviations from the registered project design have been correctly addressed as PRCs.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /POA-DD/ • /MR/ • /VVS/ • /XLS/ • /MRT/ • /IPCC/ • /IM/ • /VAL/ • /ELIG/ 	
Findings	<input checked="" type="checkbox"/>	The project has been implemented as described in the latest version of the PoA-DD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.
	<input type="checkbox"/>	The following deviations from the registered / approved project design and or the project description in the MR have been identified in the course of this verification (for further details please refer to section E.4): - N/A
	<input type="checkbox"/>	In this context the following CARs, CLs have been raised: -
	<i>In case of phased implementation:</i>	
	<input checked="" type="checkbox"/>	N/A
	<input type="checkbox"/>	The phased implementation has correctly and in sufficient detail been described in the latest version of the PoA-DD.
	<input type="checkbox"/>	The description in section D.1 of the MR differs in content or the level of detail from the latest version of the PoA-DD. However, the description in the MR is correct and reflects the situation during the site inspection.
<input type="checkbox"/>	The project description in the PoA-DD/MR is not deemed sufficient. The detailed implementation timeline is as follows:	
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	<p>During the verification a site visit was carried out. On the basis of this site visit and the reviewed project documentation it can be confirmed that w.r.t. the realized technology, the project equipment, as well as the monitoring and metering equipment, the project has been implemented and operated as described in the latest approved PoA-DD, version 3.</p> <p>Via on-site investigation and checking the operation logs, it is confirmed that there were no special events or events / situations which can impact the applicability of methodology.</p>	

E.2.2. Implementation and operation of the management system

Means of verification	<p>The verification team conducted a review of the PoA-DD and checked related information against observations found during onsite inspection and interviews conducted during the onsite visit to respective personnel. The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /POA-DD/ • /PO/ • /QA/ • /IM/ • /VAL/ • /CPA-DD/ 				
Findings	CAR 01				
Conclusion	<table border="1"> <tr> <td><input type="checkbox"/></td><td>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</td></tr> </table> <p>The CDM PoA is managed by Impact Carbon as the CME. The management structure is comprised of plant operational staff, monitoring officer and CDM advisor. The entities responsible for monitoring are:</p> <ul style="list-style-type: none"> • Project Development Director • Programme Manager • CPA Implementer • Programme Associate • Field measurement personnel • External QA/QC <p>Below important functions are undertaken</p> <ul style="list-style-type: none"> - Arrangements for training and capacity development for personnel - System/procedure to avoid double counting - Provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA - Measures for continuous improvement of the PoA management - Record keeping system for each CPA under the PoA (currently one) - Manages the Project Database, in which the results of monitoring - Coordination and communication with the verifier and the UNFCCC - Assist with the completion of monitoring reports with input - Conduct on the ground monitoring of end users - Verify the monitoring work done to ensure accuracy before submission; review protocols, interview enumerators, spot check data <p>Based on onsite check and interviews DOE has found that the system is in place, appropriate and effective.^{/PO/}</p>	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.				
<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.				

E.2.3. Post-registration changes**E.2.3.1 Temporary deviations from the registered monitoring plan, applied methodology or applied standardized baseline**

It has been checked whether Temporary deviations from the registered monitoring plan (TDfrMP) or Temporary deviations from monitoring methodology or standardized baseline (TDfMM) have been applied during this monitoring period. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No Temporary deviations from the registered monitoring plan (TDfrMP) or Temporary deviations from monitoring methodology or standardized baseline (TDfMM).have been submitted to the UNFCCC prior to the current monitoring period.
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<input type="checkbox"/>	The following TDfrMP or TDfMM have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved (approval No.:)
		Appr.date	
		Ref. No.	
	2	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved (approval No.:)
		Appr.date	
		Ref.No.	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following TDfrMP or TDfMM is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following TDfrMP or TDfMM for which appendix 1 of the PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

E.2.3.2 Corrections

It has been checked whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	During the verification of the current MP no need for corrections has been identified.		
<input type="checkbox"/>	The following corrections have been applied:		
	1	Issue:	
	2	Issue:	
	The CPA-DD has been revised accordingly:		
	Revision date:		
	It is confirmed that the updated / corrected information is an accurate reflection of the actual project information and that the corrected parameters are in accordance with the applied methodology and the monitoring plan.		
	<input type="checkbox"/> A related post registration change has been submitted prior to the issuance request. The approval has been received on DD/MM/YYYY via approval number PRC-XXXX-00Z. <input type="checkbox"/> A related post registration change is submitted along with this issuance request. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.		

E.2.3.3. Inclusion of a monitoring plan

<input checked="" type="checkbox"/>	N/A - as this monitoring plan was part of the registered PoA-DD /CPA-DD
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<input type="checkbox"/>	In line with PS § 281 or § 282 the PP has forwarded a monitoring plan to the DOE for validation. No prior approval of the monitoring plan was required as the PP in line with PS § 282 wished to submit the monitoring plan together with the request for issuance for the first monitoring period. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.
<input type="checkbox"/>	In line with § 282 the PP submitted a monitoring plan prior to the submission of the request for issuance for validation to the DOE. A DOE has assessed the monitoring plan in line with related VVS requirements and submitted a related PRC report for prior approval. The approval has been received on DD/MM/YYYY via approval number PRC-XXXX-00Z.

E.2.3.4 Permanent changes to the registered monitoring plan or permanent deviation of monitoring from the applied methodology, standardized baseline or other applied standards or tools

It has been checked whether any permanent changes from the registered monitoring plan (PCfrMP) or applied methodologies (PCfMM) including standardized baselines (PCfSB) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No PCfrMP, PCfMM or PCfSB have been submitted to the UNFCCC prior to the current monitoring period									
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB have been approved or are under approval by the UNFCCC									
	1	<table border="1"> <tr> <td>Title</td> <td></td> </tr> <tr> <td>Status</td> <td><input type="checkbox"/>under approval;<input type="checkbox"/>approved</td> </tr> <tr> <td>Appr.date</td> <td></td> </tr> <tr> <td>Ref. No.</td> <td></td> </tr> </table>	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref. No.	
Title										
Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved									
Appr.date										
Ref. No.										
	2	<table border="1"> <tr> <td>Title</td> <td></td> </tr> <tr> <td>Status</td> <td><input type="checkbox"/>under approval;<input type="checkbox"/>approved</td> </tr> <tr> <td>Appr.date</td> <td></td> </tr> <tr> <td>Ref.No.</td> <td></td> </tr> </table>	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref.No.	
Title										
Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved									
Appr.date										
Ref.No.										
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP, PCfMM or PCfSB has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA									
<input type="checkbox"/>	An approval of the following PCfrMP, PCfMM or PCfSB is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.									
	1	Issue: <table border="1"><tr><td></td></tr></table>								
	2	Issue: <table border="1"><tr><td></td></tr></table>								
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB for which appendix 1 of the PS is applicable have been applied:									
	1	Issue: <table border="1"><tr><td></td></tr></table>								
	2	Issue: <table border="1"><tr><td></td></tr></table>								

E.2.3.5. Changes to the programme design or project design

It has been checked whether any changes to the project design (CoPD) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period		
<input checked="" type="checkbox"/>	The following CoPD have been approved or are under approval by the UNFCCC		
	1	Title	Expansion of PoA Boundary to include Host Country Kenya
		Status	<input type="checkbox"/> under approval; <input checked="" type="checkbox"/> approved
		Appr.date	08/05/2017
		Ref. No.	PRC-9948-001
	2	Title	Expansion of PoA Boundary to include Host Country Nigeria
		Status	<input type="checkbox"/> under approval; <input checked="" type="checkbox"/> approved
		Appr.date	03/07/2017
		Ref.No.	PRC-9948-002
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following CoPD.is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following CoPD for which appendix 1 of the PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

E.2.3.6. Change of coordination/managing entity

NA

E.2.3.7. Changes specific to afforestation and reforestation activities

<input checked="" type="checkbox"/>	N/A - as this monitoring plan was part of the registered PDD
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E.3. Component project activities**E.3.1. Compliance of the CPA implementation with the included CPA design document**

Means verification	of	<p>By means of an in-depth review of the CPA-DD in its latest form – as downloaded from the UNFCCC project site - and the checks carried out during the on-site visit an assessment has been carried out whether the project has been implemented and operated in line with the latest approved version of the CPA-DD and whether all physical features of the project are in place. The following has been checked: implemented technology as well as project equipment.</p> <p>Further is has been checked if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period. and consistent notations of key equipment in CPA-DD, MR and calculation spreadsheet are applied.</p> <p>Interviews with operational personnel have been carried out, QMS records, maintenance records, instrument specifications were checked in this context.</p>
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	<p>Special focus has further been laid to determine whether a potential phase wise implementation has occurred within the crediting period or any delays with respect to the starting dates have occurred.</p> <p>CPA-9948-0002 is involved in dissemination of low greenhouse gas emitting safe drinking water production systems across Uganda. The CPAs under the PoA result in reduction and replacement of the amount of non-renewable biomass or fossil fuels which are traditionally used for boiling the water to make it suitable for drinking purposes.</p> <p>All monitoring parameters are assessed to be monitored as per the registered monitoring plan included in the CPA-DD and registered PoA-DD version 3. Moreover during course of verification a CAR 01 is raised which was resolved during course of verification.</p> <p>Further it has been checked whether any observed deviations from the registered project design have been correctly addressed as PRCs.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /CPA-DD/ • /MR/ • /MRT/ • /VVS/ • /XLS/ • /TS/ • /ELIG/ • /IPCC/ • /IM/ 				
Findings	CAR 01				
Conclusion	<table border="1"> <tr> <td><input type="checkbox"/></td><td>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</td></tr> </table> <p>Based on onsite visit, assessment of project appliance on ground and interviews with CME and involved personnel from Impact Water and end users (boarding and non-boarding schools) DOE has found that the CPA 2 is implemented in compliance with validated CPA design.</p> <p>Moreover, raised CAR 01 during course of verification has been justified appropriately by the PP which is confirmed as correct by DOE. Please refer Appendix 4 of this report for closure of raised finding.</p>	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.				
<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.				

E.3.2. Post-registration changes

E.3.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline

It has been checked whether Temporary deviations from the registered monitoring plan (TDfrMP) or Temporary deviations from monitoring methodology or standardized baseline (TDfMM) have been applied during this monitoring period. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No Temporary deviations from the registered monitoring plan (TDfrMP) or Temporary deviations from monitoring methodology or standardized baseline (TDfMM).have been submitted to the UNFCCC prior to the current monitoring period.		
<input type="checkbox"/>	The following TDfrMP or TDfMM have been approved or are under approval by the UNFCCC		
	1	Title	

	Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved (approval No.:)	
	Appr.date		
	Ref. No.		
	2	Title	
	Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved (approval No.:)	
	Appr.date		
	Ref.No.		
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following TDfrMP or TDfMM is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following TDfrMP or TDfMM for which appendix 1 of the PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

E.3.2.2. Corrections

It has been checked whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	During the verification of the current MP no need for corrections has been identified.		
<input type="checkbox"/>	The following corrections have been applied:		
	1	Issue:	
	2	Issue:	
	N/A		
	N/A		
	<input type="checkbox"/> A related post registration change has been submitted prior to the issuance request. The approval has been received on DD/MM/YYYY via approval number PRC-XXXX-00Z. <input type="checkbox"/> A related post registration change is submitted along with this issuance request. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.		

E.3.2.3. Changes to the start date of the crediting period of component project activities

NA

E.3.2.4 Inclusion of a monitoring plan

<input checked="" type="checkbox"/>	N/A - as this monitoring plan was part of the included CPA-DD
<input type="checkbox"/>	In line with PS § 281 or § 282 the PP has forwarded a monitoring plan to the DOE for validation. No prior approval of the monitoring plan was required as the PP in line with PS § 282 wished to submit the monitoring plan together with the request for issuance for the first monitoring period. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.
<input type="checkbox"/>	In line with § 282 the PP submitted a monitoring plan prior to the submission of the request for issuance for validation to the DOE. A DOE has assessed the monitoring plan in line with related VVS requirements and submitted a related PRC report for prior approval. The approval has been received on DD/MM/YYYY via approval number PRC-XXXX-00Z.

E.3.2.5. Permanent changes to the registered monitoring plan or permanent deviation of monitoring from the applied methodology, standardized baseline, or other applied standards or tools

It has been checked whether any permanent changes from the registered monitoring plan (PCfrMP) or applied methodologies (PCfMM) including standardized baselines (PCfSB) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No PCfrMP, PCfMM or PCfSB have been submitted to the UNFCCC prior to the current monitoring period									
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB have been approved or are under approval by the UNFCCC									
	1	<table border="1"> <tr> <td>Title</td> <td></td> </tr> <tr> <td>Status</td> <td><input type="checkbox"/>under approval;<input type="checkbox"/>approved</td> </tr> <tr> <td>Appr.date</td> <td></td> </tr> <tr> <td>Ref. No.</td> <td></td> </tr> </table>	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref. No.	
Title										
Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved									
Appr.date										
Ref. No.										
	2	<table border="1"> <tr> <td>Title</td> <td></td> </tr> <tr> <td>Status</td> <td><input type="checkbox"/>under approval;<input type="checkbox"/>approved</td> </tr> <tr> <td>Appr.date</td> <td></td> </tr> <tr> <td>Ref.No.</td> <td></td> </tr> </table>	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref.No.	
Title										
Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved									
Appr.date										
Ref.No.										
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP, PCfMM or PCfSB has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA									
<input type="checkbox"/>	An approval of the following PCfrMP, PCfMM or PCfSB is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.									
	1	Issue:								
	2	Issue:								
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB for which appendix 1 of the PS is applicable have been applied:									
	1	Issue:								
	2	Issue:								

E.3.2.6. Changes to the programme design or project design

It has been checked whether any changes to the project design (CoPD) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period		
<input type="checkbox"/>	The following CoPD have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr.date	
		Ref. No.	
	2	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr.date	
		Ref.No.	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following CoPD is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following CoPD for which appendix 1 of the PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

E.3.2.7. Changes specific to afforestation and reforestation component project activities

<input checked="" type="checkbox"/>	N/A - as this CPA is no afforestation or reforestation project.
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E.3.3. Compliance of the registered monitoring plan with the methodology including applicable tool(s) and standardized baseline

Means of verification	By means of comparison of the MR with (i) the applied CDM methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline the verification team has checked whether the MP is in compliance with the MP related requirements of the applied methodology/tools/SB. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /MR/ • /AMS-III.AV/ • /TA/ • /IPCC/ 		
Findings	<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the CDM project (last registered/approved version of the PoA-DD)	
	<input checked="" type="checkbox"/>	The breakdown of MP accordance of the referenced tools is as follows:	
	1	Title (of the tool)	"Tool: Baseline, project and/or leakage emissions from electricity consumption and

			monitoring of electricity generation" version 1.0
		Version	1.0
		MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)
	<input type="checkbox"/>	The breakdown of MP accordance of the applicable SB is as follows:	
	1	Title (of the SB)	Name of SB
	Version	n.a.	
	MP compliance		
<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:		
	-		
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.	
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.	
	The monitoring plan complies with the applied methodology and the monitoring system and all applied procedures are completely in compliance to the latest approved monitoring plan and the methodology.		

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

Means of verification	By means of comparison of the MR and the ER calculation with the latest version of the registered PoA-DD and CPA-DD the verification team has checked whether all parameters fixed ex-ante have been applied correctly.					
	Sr. No	Parameter abbreviation	Description	Value	Unit	Assessment of Value
	Assessment of Ex-ante fixed value applied for calculation of baseline emissions					
	1	Case 1 or Case 2	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).	Case 1. Utilized for baseline calculations and opting for appropriate emission reductions calculations methods	-	Registered CPA-DD, page 26 (using official and publicly available statistical data from Uganda Demographic and Health Survey 2011)

	2	WH	Specific Heat of Water	4.186 Utilized for baseline calculations	kJ/L.°C	Default Value from AMS-III.AV Version 4
	3	T _f	Final Temperature	100 Utilized for baseline calculations	°C	Default Value from AMS-III.AV Version 4
	4	T _i	Initial Temperature	20	°C	Default Value from AMS-III.AV Version 4
	5	WHE	Latent Heat of Water Evaporation	2,260	kJ/L	Default Value from AMS-III.AV Version 4
	6	R _{y,i}	Average volume of drinking water per person per day	3.5 (for boarding schools, prisons) 2 (for day schools)	Liters/person/day	WHO data on the minimum 'survival' allocation for drinking water per a person and water per pupil. ⁴
	Conclusion: The above stated ex-ante determined values are appropriately applied for the calculation of baseline emissions. The verification team has checked the consistency of the applied values and its units for the calculation of the baseline emissions and deems them as appropriate. The appropriateness of the baseline calculation is separately assessed under section E.3.5.1.					
	Assessment of Ex-ante fixed value applied for calculation of project emissions					
	1	EF _{EL,j,y}	Emission factor for electricity generation for source j in year y (tCO2/MWh)	1.3	tCO2/MWh	As per the "Tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity , generation" Option A2 is used
	2	TDL _{i,j,y}	Average technical transmission and distribution losses for providing	20%	-	Default value from the "Tool: Baseline, project and/or leakage

⁴ http://www.who.int/water_sanitation_health/publications/2011/WHO_TN_09_How_much_water_is_needed.pdf?ua=1

		electricity to source j in year y			emissions from electricity consumption and monitoring of electricity generation” Version 2	
	Conclusion: The above stated ex-ante determined values are appropriately applied for the calculation of project emissions. The verification team has checked the consistency of the applied values and its units for the calculation of the project emissions and deems them as appropriate. The appropriateness of the project emission calculation is separately assessed under section E.3.5.2.					
	Assessment of Ex-ante fixed value applied for calculation of Leakage emissions					
	1	L	Leakage	0.95	-	Default Value from AMS-I.E Version 5
	Conclusion: The above stated ex-ante determined values are appropriately applied for the calculation of leakage emissions. The verification team has checked the consistency of the applied values and its units for the calculation of the leakage emissions and deems them as appropriate. The appropriateness of the leakage emission calculation is separately assessed under section E.3.5.3.					
	<p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /PoA-DD/ • /PS/ • /VVS/ • /IPCC/ • /TS/ • /DNA/ • /IM/ 					
Findings	<input checked="" type="checkbox"/>	The MR and the ER calculation have considered the parameters fixed ex-ante or at the renewal of the crediting period correctly, no deviations have been observed.				
	<input type="checkbox"/>	The following deviations from the parameters fixed ex-ante or at renewal of crediting period have been identified in the course of this verification: - N/A				
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: CAR 04				
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.				
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.				
	The ex-ante determined values have been correctly and consistently applied. No mistake has been identified. Please refer closure of CAR 04.					

E.3.4.2. Data and parameters monitored

Means of verification	<p>During the verification all relevant monitoring parameters (as listed in chapter B.7.1 of the PoA-DD and esp.D.7.1 of CPA-DD) have been verified with regard to the</p> <ul style="list-style-type: none"> (i) appropriateness of the applied measurement / determination method, (ii) the correctness of the values applied for ER calculation, (iii) the accuracy, and applied QA/QC measures.
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	<p>The results as well as the verification procedure are described parameter-wise in the project specific verification checklist (Appendix 5). The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /PoA-DD/ • /CPA-DD/ • /PS/ • /VVS/ • /XLS/ • /GR/ • /O/ • /IM/ 		
Findings	For details please refer to Appendix 5 CAR 02, CAR 03, CAR 04, CAR 05, CAR 06, CL 01		
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.	
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.	
	<p>Appropriate actions have been taken by the PP to close out all the raised findings.</p> <p>During the verification, all relevant monitoring parameters (as listed in chapter D.7.1 of the registered CPA-DD) have been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. The results as well as the verification procedure are described parameter-wise in the project specific verification checklist (Appendix 5).</p> <p>After appropriate corrections were carried out by the project participant it can be confirmed that all monitoring parameters have been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.</p>		

E.3.4.3. Implementation of sampling plan

Means of verification	<p>The verification team has been checked whether the CMEs have applied a sampling approach to determine the monitored values. Further it has been checked whether the CMEs have correctly applied the implemented sampling plan including</p> <ul style="list-style-type: none"> (i) description of the implemented sampling design (ii) collected data (iii) analysis of collected data (iv) demonstration on whether the required confidence/precision has been met. <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /XLS/ • /PoA-DD/ • /CPA-DD/ 			
Findings	<input type="checkbox"/>	The PPs have not applied sampling approaches for the parameters monitored.		
	<input checked="" type="checkbox"/>	The PPs have applied sampling approaches for the following parameters monitored.		
		1	Parameter:	Water Quality
		Name:	Water quality measurement (litres)	
		Description on how the sampling efforts and survey comply with the validated sampling plan:	It is assessed by the verification team that sample were identified using online random number generator and the numbers obtained were used the identify the samples from the	

				population. The samples size were calculated, using the Standard: Sampling and surveys for CDM project activities and programmes of activities, for the parameters. Since this a proportion parameter, hence, a minimum sample size of 30 was selected as per the standard, para 13 requirement. Reliability check was also demonstrated by the PP which is assessed to pass the test as relative precision was found to be less than 10.00%.	
			2	Parameter:	Operational Units;
				Name:	proportion of units found in use
				Description on how the sampling efforts and survey comply with the validated sampling plan:	verification team has assessed the sample size calculation worksheet and reliability test results presented in the ER calculator and observed that sample were selected using online random number generator and the numbers obtained were used the identify the samples from the target population of 580 water purification systems. The samples size were calculated, using the Standard: Sampling and surveys for CDM project activities and programmes of activities, for the parameters. Since this a proportion parameter, hence, a minimum sample size of 30 was selected as per the standard, para 13 requirement, however a total of 33 samples were surveyed by PP. Reliability check was also demonstrated by the PP which is assessed to pass the test as relative precision was found to be 5.86% which is less than 10%.
		3	Parameter:	Existence of public distribution network of safe drinking water	
			Name:	(Existence of public distribution network of safe drinking water in year y)	
			Description on how the sampling efforts and survey comply with the validated sampling plan:	verification team has assessed the sample size calculation worksheet and reliability test results presented in the ER calculator and observed that sample were selected using online random number generator and the numbers obtained were used the identify the samples from the target population of 580 water purification systems. The samples size were calculated, using the Standard: Sampling and surveys for CDM project activities and programmes of activities, for the parameters. Since this a proportion parameter, hence, a minimum sample size of 30 was selected as per the standard, para 13 requirement. Reliability check was also	

			demonstrated by the PP which is assessed to pass the test as relative precision was found to be 9.31% which is less than 10%.
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:	
		CAR 05	
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.	
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.	
		Based on the review of listed above reference documents, on-site visit and interview, it can be concluded by VT that the implementation of sampling plan is in accordance with applied methodology, registered CPA-DD and Standard for Sampling and Survey for project Activities and PoA version 07.	

E.3.4.4. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	<p>This PoA involves the distribution low greenhouse gas emitting safe drinking water production systems across Uganda. The CPAs under the PoA result in reduction and replacement of the amount of non-renewable biomass or fossil fuels which are traditionally used for boiling the water to make it suitable for drinking purposes. Measurements required for monitoring does not directly require equipment and its calibration in the CME's hand. The parameters "$f_{NRB,y}$", "η_{wb}", "Existence of public distribution network of safe drinking water", "$EF_{projected_fossilfuel}$", "$ECP_{Ji,y}$" are determined based on sampling. Publicly available data is also utilized by the CME. The same is checked and reviewed during the verification.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /XLS/ • /PoA-DD/ • /CPA-DD/ • /AMS. III.AV/ • /ANNEX-4/ 		
Findings	<input type="checkbox"/>	Based on the details listed in appendix 6 the verification team can confirm that all installed monitoring equipment has been duly calibrated for this entire monitoring period.	
	<input type="checkbox"/>	<p>Based on the assessment and information as per appendix 6 delay(s) in calibration have been identified. The PP has applied the maximum permissible error of the instrument to the measured values taken during the period between the scheduled date of calibration and the actual date of calibration.</p> <p>From the related calibration certificates and emission reduction calculation the verification team confirms that the maximum permissible error has been applied in a conservative manner so that the adjusted measured values due to the delayed calibration result in fewer claimed emission reductions.</p> <p>For details please refer to appendix 6</p>	
	<input type="checkbox"/>	<p>In this context the following CARs, CLs, FARs have been raised:</p> <p>N/A</p>	
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.	
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.	
		This CPA is not involved in installation of monitoring equipment which requires calibration, however, based on assessment of documents, Sampling Surveys	

	report and data maintenance and recording procedures, it can be concluded that recording of all the data related to monitoring is appropriate and accurate.
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E.3.5. Assessment of data and calculation of emission reductions or net removals

E.3.5.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	<p>During the verification the calculation of baseline GHG emissions has been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> • <i>Transparency</i>: It has been checked whether the calculation of baseline emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae. • <i>Parameter consistency</i>: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet. • <i>Correctness</i>: It has been checked whether the applied formulae and methods for calculating baseline emissions are in accordance with the monitoring plan and the approved methodology. • <i>Completeness</i>: It has been checked whether all calculations are complete and without omissions. <p>Calculation of emission reductions is performed during the applied monitoring period as follows:</p> <p>Step 1: Calculation of quantity of purified water in year y (QPW_y)</p> <p>Equation (1.a)</p> $QPW_y = \sum (T_{y,i} \times N_{y,i} \times R_{y,i} \times 365 \times \text{Water Quality}_i \times \text{Operational Units}_i)$ <p>Step 2: Calculation of specific energy consumption [SEC] required to boil one litre of water.</p> <p>Equation (2)</p> $SEC = [WH \times (T_f - T_i) + 0.01 \times WHE] / \eta_{wb}$ <p>Step 3: Calculation of baseline emissions.</p> <p>Equation (1)</p> $BE_y = QPW_y \times SEC \times f_{NRB,y} \times EF_{projected - fossilfuel} \times 10^{-9}$
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S. No.	Description	Units	2015	2016	2017	
1	$T_{y,i}$	Number	200	463	580	monit
2	Operational rate	Fraction	96.97%	96.97%	96.97%	monit
5	$R_{y,i}$	L/person/day	2.58	2.57	2.54	monit
6	$N_{y,i}$	persons/technology	629.00	665.00	659.00	monit
7	Days	number	100	272	126	calcul
8	Water Quality _i	Fraction	1.00	1.00	1.00	monit
9	QPW _y	L/year	3,13,44,618	20,91,89,559	11,90,67,876	calcul
10	η_{wb}	Fraction	0.1172	0.1172	0.1172	monit
11	T_f	C	100	100	100	Ex Ant
12	T_i	C	20	20	20	Ex Ant
13	WH	kJ/L - C	4.186	4.186	4.186	Ex Ant
14	WHE	kJ/L	2260	2260	2260	Ex Ant
15	SEC	kJ/L	3050.17	3050.17	3050.17	calcul
16	f_{NRB}	Fraction	0.8304	0.8304	0.8304	monit
17	EF _{projected_fossilfuel}	tCO ₂ e/TJ	80.12	80.12	80.12	monit
18	Systems having safe water supply	Fraction	0.07	0.07	0.07	monit
19	BE _y	tCO ₂ e/annum	5,937	39,623	22,553	calcul
20	PE _y	tCO ₂ e/annum	38	86	108	calcul
21	L	tCO ₂ e/annum	297	1,982	1,128	calcul
22	ER _y	tCO ₂ e/annum	5,602	37,555	21,317	calcul

The following sources of information have been used in this context:

- /MR/
- /XLS/
- /AMS III.AV/
- /CPA DD/

Findings	<input type="checkbox"/>	The calculation of the baseline emissions was found to be fully compliant with the above stated principles. The calculations of baseline GHG emissions or baseline net GHG removals have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors, IPCC default values, GWPs and other reference values have been correctly applied. No errors, miscalculations, omissions, misstatements or incomplete information has been identified.
	<input checked="" type="checkbox"/>	The verification team has identified mistakes in the baseline emissions calculation or the underlying calculation approaches.
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: CAR 05, CL 01, CAR 06
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
Where corrections were required a revised calculation was prepared by the PPs and presented to the verification team. All raised issues were addressed appropriately so that it can be confirmed that the baseline calculation is overall correct.		

E.3.5.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	<p>During the verification the calculation of project GHG emissions has been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> • Transparency: It has been checked whether the calculation of project emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae. • Parameter consistency: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet. • Correctness: It has been checked whether the applied formulae and methods for calculating project emissions are in accordance with the monitoring plan and the approved methodology.
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	<ul style="list-style-type: none"> Completeness: It has been checked whether all calculations are complete and without omissions. <p>Calculation of project emissions is performed by using the following equation:</p> $PE_y = T_y \times EC_{PJ,j,y} \times EF_{EL,j,y} \times (1 + TDL_{j,y})$ <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> /MR/ /XLS/ /AMS III.AV/
Findings	<div> <input type="checkbox"/> The calculation of the project emissions was found to be fully compliant with the above stated principles. The calculations of project GHG emissions or actual net GHG removals have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors, IPCC default values, GWPs and other reference values have been correctly applied. No errors, miscalculations, omissions, misstatements or incomplete information have been identified. </div> <div> <input checked="" type="checkbox"/> The verification team has identified mistakes in the project emissions calculation or the underlying calculation approaches. </div> <div> <input checked="" type="checkbox"/> In this context the following CARs, CLs, FARs have been raised: CAR 04, CAR 06 </div>
Conclusion	<div> <input type="checkbox"/> No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements. </div> <div> <input checked="" type="checkbox"/> The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4. </div> <p>Where corrections were required a revised calculation was prepared by the PPs and presented to the verification team. All raised issues were addressed appropriately so that it can be confirmed that the baseline calculation is overall correct.</p>

E.3.5.3. Calculation of leakage GHG emissions

Means of verification	<p>During the verification the calculation of leakage GHG emissions have been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> Transparency: It has been checked whether the calculation of project emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae. Parameter consistency: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet. Correctness: It has been checked whether the applied formulae and methods for calculating project emissions are in accordance with the monitoring plan and the approved methodology. Completeness: It has been checked whether all calculations are complete and without omissions. <p>Leakage has been calculated using a default 95% leakage adjustment factor to baseline emissions as per the applied methodology.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> /AMS III.AV/ /MR/ /XLS/
Findings	<input checked="" type="checkbox"/> The calculation of the leakage emissions was found to be fully compliant with the above stated principles.

		The calculations of leakage GHG emissions or actual net GHG removals have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors, IPCC default values, GWPs and other reference values have been correctly applied. No errors, miscalculations, omissions, misstatements or incomplete information have been identified.
	<input type="checkbox"/>	As per methodology and PoA-DD no leakage has to be considered.
	<input checked="" type="checkbox"/>	The verification team has identified mistakes in the determination of leakage emission calculation or the underlying calculation approaches.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: NA
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		Leakage has been calculated using a default 5% leakage adjustment factor to baseline emissions as per the applied methodology.
E.3.5.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks		
Means of verification		The verification team has checked if the MR includes a summary table of the emission reductions calculation specifying separately <ul style="list-style-type: none"> - Total baseline emissions, - Total project emissions, - Total leakage, - Total emission reductions. It has been assessed whether the values are correct or need to be revised as a consequence of issues identified above.
Findings	<input checked="" type="checkbox"/>	Section H.4 of the MR includes in a summary table of the emission reductions calculation.
	<input checked="" type="checkbox"/>	The summary table specified the total baseline, project and leakage emissions as well as the total emission reductions separately.
	<input type="checkbox"/>	The values as specified in the ER summary table are correct; no issues have been identified during the verification which requires changes in the ER calculation.
	<input type="checkbox"/>	During the verification issues with impact on the ER calculation have been identified.
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: CAR 05, CL5, CAR 06, CAR 04, CAR 03
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		All the raised findings have been properly addressed by the PP in the MR and ER spreadsheet. The final calculation of GHG emission reductions is sufficiently demonstrated and presented in the revised MR and no further mistakes are found.

Title and UNFCCC reference number of the CPA	Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e)	Project emissions or actual net GHG removals by sinks (tCO ₂ e)	Leakage (tCO ₂ e)	GHG emission reductions or net GHG removals by sinks (tCO ₂ e)		
				Amount achieved before 1 January 2013	Amount achieved from 1 January 2013	Amount achieved in the entire monitoring period
CPA_ 9948-0002	68,113	232	3,407	0	64,474	64,474
Total	68,113	232	3,407	0	64,474	64,474

E.3.5.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA

Means of verification	The verification team has checked if the MR includes a comparison of actual values of the monitoring period with the estimations in the registered PDD. It has further checked which of the below listed cases is applicable for the calculated ER of the current monitoring period.	
Findings	<input type="checkbox"/>	Case 1: The ex-ante estimated value was found to be proportionally higher than the ex-post determined value. No further action is deemed required.
	<input type="checkbox"/>	Case 2: The ex-ante estimated value fits very good to the actually monitored value. No further justification is deemed required.
	<input checked="" type="checkbox"/>	Case 3: The ex-ante estimated value was found to be proportionally lower than the ex-post determined value.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	Comparison of GHG emission reductions from the estimated value in the CPA-DD and the current monitoring period is sufficiently and transparently provided which is assessed to be in line with CDM PS and MR filling guideline.	

Title and UNFCCC reference number of the CPA	Value estimated in ex ante calculation in the included CPA-DD(s)	Actual values achieved by the CPAs during this monitoring period
CPA_ 9948-0002	24,877	64,474
Total	24,877	64,474

E.3.5.6. Remarks on difference from estimated value in included CPA

Means of verification	On the basis of the above comparison of actual values of the monitoring period with the estimations in the registered CPA-DD the verification team has checked whether (in case 3) an appropriate explanation is included in the MR.	
Findings	<input type="checkbox"/>	No further justification or explanation is deemed required as actual emissions of this MP do not exceed significantly the ex-ante calculated emission reductions (applicable for case 1 and 2).
	<input checked="" type="checkbox"/>	For case 3: The PP has provided a related justification in the MR. The reasons for the increase are as follows: The higher ex-poste emission reductions in the current monitoring period is due to higher value of the parameters $R_{y,i}$ and $N_{y,i}$. •
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: CAR 1
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	Emissions reductions achieved during the monitoring period are higher than the values estimated in the ex-ante calculation of registered CPA-DD. Appropriate explanation is furnished in the MR and assessed to be acceptable by verification team.	

E.3.6. Assessment of reported sustainable development co-benefits

Means of verification	NA
Findings	
Conclusion	

E.3.7. Global stakeholder consultation

Means of verification	The MR has been published for the comment period 24 Oct 2017 - 07 Nov 2017.
Findings	NA
Conclusion	UNFCCC webpage was assessed. No related comments have been received.

SECTION F. Internal quality control

Before the submission of the final verification report a technical review of the whole verification procedure was carried out. The technical reviewers are competent GHG auditors being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may have been confirmed or revised. Furthermore reporting improvements might have been achieved.

After the successful technical review an overall (esp. procedural) assessment of the complete verification has been carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the submission for requesting for issuance is conducted.

SECTION G. Verification opinion

The Impact Carbon has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st verification of the CDM Programme of Activities (CDM-PoA): "Impact Carbon Global Safe Water Programme of Activities (PoA)" with regard to the relevant requirements for CDM Programme of Activities. The PoA reduces GHG emissions by avoiding usage of fuel wood and other fossil fuel for boiling water to make it suitable for drinking purpose

This verification covers the period from 30/05/2014 – 22/05/2017 (including both days).

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document,
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS-III.AV ver. 04.0,
- the monitoring system is in place and functional. The project has generated GHG emission reductions,
- the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.

TÜV NORD JI/CDM CP further confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Emission reductions: 64,474 t CO_{2e}.

SECTION H. Certification statement

As a duly accredited DOE, TÜV NORD CERT confirms that the CDM PoA

"Impact Carbon Global Safe Water Programme of Activities (PoA)"

registered under

UNFCCC-No. : PoA 9948

has achieved emission reductions in accordance with all applicable requirements for registered CDM project activities during the current monitoring period

MP-No.: 1

from: 30/05/2014

to: 22/05/2017

(including both days) as follows:

Emission reductions: 64,474 tCO_{2e}.

New Delhi, 25/10/2018




Prakash Kumar Mishra
Team Leader
TÜV NORD JI/CDM Certification Program

Appendix 1. Abbreviations

Abbreviations	Full texts
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO ₂	Carbon dioxide
CO _{2eq}	Carbon dioxide equivalent
CL	Clarification Request
DverR	Draft Verification Report
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IM	Interview Memo
MP	Monitoring Plan
MR	Monitoring Report
PA	Project Activity
PoA-DD	Programme of Activity Design Document
CPA-DD	Component Project Activity Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
WPS	Water purification System
XLS	Emission Reduction Calculation Spread Sheet

Appendix 2. Competence of team members and technical reviewers



Statement of Competence
Appointment and authorisation according to the provisions
of the TUV NORD VCR Certification Program

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-27
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-27


Authorisation status for technical areas within sectoral scopes

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
4.1	Concrete and lime production
4.2	Paper
5.2	Cementation, mining and aggr. prod.
5.1	Aluminium and magnesium production
5.3	Iron, steel and ferroalloy production
13.1	Solid waste and wastewater
13.2	Waste

183 - Rev. 4, Date: 2015-01-05

183_001-000007-01_2015-01-05_00-00

001-000007-01-001-000000



Statement of Competence
Appointment and authorisation according to the provisions
of the TUV NORD VCR Certification Program

Mr. Swapnil Thanekar

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2020-02-02
VCS	Lead Assessor	2020-02-02


Authorisation status for technical areas within sectoral scopes

CODE	TECHNICAL AREA
1.2	Renewable Energy

047 - Rev.4, Date: 2017-07-04

047_001-000007-01_2017-07-04_00-00

001-000007-01-001-000000



Statement of Competence
Appointment and authorisation according to the provisions
of the TUV NORD VCR Certification Program

Ms. Xue Jiao Fancy Zhao

SCHEME	STATUS	VALID UNTIL
CDM	Senior reviewer (Validation, Verification) Technical Reviewer	2016-11-01
VCS / ISO 14064-2	Senior reviewer	2016-11-01


Authorisation status for technical areas within sectoral scopes

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
8.1	Wiring and electrical production
13.1	Solid waste and wastewater
13.2	Waste

230 - Rev. 8, Date: 2016-08-08

230_001-000007-01_2016-08-08_00-00

001-000007-01-001-000000



Statement of Competence
Appointment and authorisation according to the provisions
of the TUV NORD VCR Certification Program

Mr. Prakash Kumar Mishra

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2018-11-21
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2018-11-21

Authorisation status for technical areas within sectoral scopes

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand

146 - Rev. 5.3, Date: 2018-08-17

146_001-000007-01_2018-08-17_00-00

001-000007-01-001-000000

Appendix 3. Documents reviewed or referenced

No.	Author	Reference	Title	References to the document	Provider
1.	UNFCCC	/AMS-III.AV/	Applied large scale methodology AMS-III.AV ver. 04.0, "Low greenhouse gas emitting safe drinking water production systems" AMS-I.E. Switch from non renewable biomass for thermal applications by the user, (Version 5)	http://cdm.unfccc.int/methodologies/DB/FK5MAJTER13DG3ZPI76S1RE1QQ6G0B http://cdm.unfccc.int/methodologies/DB/SO800GYGWHMXM287RBNKEYAMN9EUN0	Other
2.	DOE	/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)		Other
3.	IPCC	/IPCC/	<ul style="list-style-type: none"> 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book 	www.ipcc-nggip.iges.or.jp	Other
4.	UNFCCC	/KP/	Kyoto Protocol (1997)	http://unfccc.int/kyoto_protocol/items/2830.php	Other
5.	UNFCCC	/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)	http://cdm.unfccc.int/Reference/COPMOP/index.html	Other
6.	UNFCCC	/MRT/	Monitoring report form for CDM programme of activities (CDM-PoA-MR-FORM version 02.0)	https://cdm.unfccc.int/Reference/PDDs_Forms/index.html	Other
7.	UNFCCC	/POA-DD/	<ul style="list-style-type: none"> Registered Project Design Document for CDM PoA: "Impact Carbon Global Safe Water Programme of Activities (PoA)" version 03, dated 24/03/2014 Revised Project Design Document for CDM PoA: "Impact Carbon Global Safe Water Programme of Activities (PoA)" version 6.1, dated 15/02/2017 Revised Project Design Document for CDM PoA: "Impact Carbon Global Safe Water Programme of Activities (PoA)" version 7.0, dated 18/04/2017 	https://cdm.unfccc.int/ProgrammeOfActivities/po_a_db/06901LAWYS37INVEB5RZHMCU4KJFPD/view	Other

No.	Author	Reference	Title	References to the document	Provider
8.	CPA Implementer	/MONIT/	<p>$T_{y,i}$</p> <ul style="list-style-type: none"> “UV Systems Technical Specifications Sheet” - Technical specification of the actually installed water purification systems, indicating the technical specifications of water purification system (the $EC_{PJ,y}$ has been calculated based on ex-ante assumption of 100W electrical capacity per unit (highly conservative)) Sales database in chronological order included as part of the “PoA 9948 - MP#1 ER Calculator v3.0 24092018”, Worksheet - “PoA 9948 Sales DB” Sales receipt to cross check the Sales Record submitted in form of “Sample Sales Receipt” and “Sample Installation forms” and “Sample Salesforce Reports” <p>$N_{y,i}$</p> <ul style="list-style-type: none"> Sales database in chronological order included as part of the “PoA 9948 - MP#1 ER Calculator v3.0 24092018”, Worksheet - “PoA 9948 Sales DB” Sales receipt to cross check the Sales Record submitted in form of “Sample Sales Receipt” and “Sample Installation forms” and “Sample Salesforce Reports” <p>Water Quality_i</p> <ul style="list-style-type: none"> Conformance Certificate that the Aquagenix Water Testing kit meets the requirements of applied 	-	Other

No.	Author	Reference	Title	References to the document	Provider
			<p>monitoring plan in form of “Aquagenix Testing Kit Specifications”, the conformance to WHO guidelines</p> <ul style="list-style-type: none"> Water Quality Testing Report on filtered water from the project technology under applied monitoring report in form of “Sample Monitoring Records”, section Water Quality Training certificates of the Enumerators who were employed for water testing Training procedure included in the “Aquagenix Test Training Module” <p>Operational Units:</p> <ul style="list-style-type: none"> Sampling Surveys (for each technology type) Sample training certificates of the Enumerators who were employed for survey of Operational Units - Training Cert for Survey and Test belong to same person named “Moreen Akankunda” <p>$f_{NRB,y}$</p> <ul style="list-style-type: none"> Survey report for determination of the fraction of the woody biomass saved by the project activity Applied international reports (with traceability) which are utilized for determination of the parameter $f_{NRB,y}$ Training procedures for enumerator for determination of the parameter $f_{NRB,y}$ <p>η_{wb}</p> <ul style="list-style-type: none"> Default values as per AMS-III.AV combined with survey, national, or regional data to determine the 		

No.	Author	Reference	Title	References to the document	Provider
			<p>percent of users using different types of water boiling systems in the baseline scenario.</p> <ul style="list-style-type: none"> For ex-ante emission reduction calculations, default values are combined with data from the Uganda National Household Survey 2009/201018 <p>$EF_{\text{projected_fossilfuel}}$</p> <ul style="list-style-type: none"> AMS-I.E as referenced by AMS-III.AV Version 4 for fNRB and IPCC default values for fossil fuels, combined with survey, national, or regional data to determine the percent of users using woody biomass and fossil fuel(s) in the baseline scenario <p>$EC_{PJ,j,y}$</p> <ul style="list-style-type: none"> “UV Systems Technical Specifications Sheet” - Technical specification of the actually installed water purification systems, indicating the technical specifications of water purification system (the $EC_{PJ,j,y}$ has been calculated based on ex-ante assumption of 100W electrical capacity per unit (highly conservative)) Ex-ante value is applied as it is conservative compared to Manufacturers' specifications 		
9.	UNFCCC	/CPA-DD/	<ul style="list-style-type: none"> Registered CPA-DD for “Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 2, version 3.0 dated 29/04/2014 	http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/5J36IFUKQVNMRA0OZPG LH9C7STED1W/view	Other
10.	CME	/ELIG/	<p>Double Counting</p> <ul style="list-style-type: none"> Operations Manual for allocation of unique serial 		

No.	Author	Reference	Title	References to the document	Provider
	Technology Supplier		<p>number to water purification system</p> <ul style="list-style-type: none"> Project database and recorded in sales receipt. <p>Applied Technology:</p> <ul style="list-style-type: none"> Technological specifications for Nandadeep UV purification system <p>Location of CPA</p> <ul style="list-style-type: none"> Verifiable evidence – Address to confirm that the CPA is not located in regions of Uganda where a public distribution network supplying safe drinking water exists. <p>Laboratory Test of filtration device</p> <ul style="list-style-type: none"> Laboratory test results for Nandadeep UV filtration device provided to DOE <p>Life Span of filtration device</p> <ul style="list-style-type: none"> The life span of water treatment technologies supported by Sales Receipts 		
11.	UNFCCC	/PS/	CDM Project Standard for programmes of activities (Version 1.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
12.	PP	/VAL/	Validation Report for CDM PoA project “Impact Carbon Global Safe Water Programme of Activities (PoA)” version 02, dated 30 April 2014	https://cdm.unfccc.int/ProgrammeOfActivities/po_a_db/069O1LA_WYS37INVEB5_RZHMUCU4KJFPD/view	Other
13.	UNFCCC	/VVS/	CDM Validation and Verification Standard for programmes of activities (Version 1.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
14.	UNFCCC	/SAMPLE/	<ul style="list-style-type: none"> “Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities” (Version 03.0) “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities” (version 4.1) 	https://cdm.unfccc.int/Reference/Guidclarif/index.html http://cdm.unfccc.int/Reference/Standards/index.html	Other

No.	Author	Reference	Title	References to the document	Provider
15.	UNFCCC	/TA/	<ul style="list-style-type: none"> Tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" version 1.0 	http://cdm.unfccc.int/Reference/tools/index.html	Other
16.	UNFCCC	/GOT/	Glossary "CDM terms" (version 09.1)	https://cdm.unfccc.int/filestorage/e/x/t/extfile-20150226124447549-glos_CDM.pdf/glos_CDM.pdf?t=UmZ8bnFjODI3fDCW9A3vJwR03kQQh4sbLiYu	Other
17.	CME / CDM consultant	/MR/	Monitoring report version 01, dated 04/10/2017 for CPA 02 Monitoring Report version 02 dated 26/08/2018 Monitoring Report version 03, dated 16/10/2018 Monitoring Report version 04 dated 24/10/2018	-	CME / CDM consultant
18.	CME / CDM consultant	/XLS/	Emission reductions calculation excel spreadsheet, version 1, dated 04/10/2017 for CPA 02 Final ER worksheet in line with MR version-04, dated, 24/10/2018	-	CME / CDM consultant
19.	CME / CDM consultant	/TS/	"UV Systems Technical Specifications Sheet" - Technical specification of the actually installed water purification systems, indicating the technical specifications of water purification system (the ECP _{Ji,y} has been calculated based on ex-ante assumption of 100W electrical capacity per unit (highly conservative))	-	CME / CDM consultant
20.	CME / CDM consultant	/PO/	Sales database in chronological order included as part of the "PoA 9948 - MP#1 ER Calculator v3.0 24092018", Worksheet - "PoA 9948 Sales DB"	-	CME / CDM consultant

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

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

FAR ID	XX	Section no.	-	Date: DD/MM/YYYY
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Description of FAR					
CME response			Date: XX/XX/XXXX		
Documentation provided by CME					
<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:		
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:		
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:		
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/>	Other:				
DOE assessment			Date:		
<table border="0"> <tr> <td style="vertical-align: top;"> Conclusion <i>Tick the appropriate checkbox</i> </td> <td> <input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed </td> </tr> </table>				Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed				

Table 2. CLs from this verification

CL ID	1	Section no.	E.2	Date: 07/12/2017
Description of CL				
Clarification is requested over application of values from Overall Uganda and Fossil fuel stove type for the parameter " η_{wb} " as how the data from Survey Findings 2009/2010 "Uganda National households Survey Findings 2009/2010 is appropriate with regards to the monitoring frequency of every two years in the registered monitoring plan.				
CME response				Date: 06/07/2018
<p>As per page 39 of the CPA-DD, the source of data is surveys, national or regional data. The Uganda Bureau of Statistics (UBOS) published the national / regional level household survey data in 2009/10 (available at: https://www.ubos.org/publications/statistical/23/) giving information about penetration of different cooking technologies in Uganda,. The same was used for ex-ante calculation in the registered CPA-DD on page 39.</p> <p>A more recent study by Uganda National NGO Forum and UNDP published in May 2015, table 12, page 23, (http://ngoforum.or.ug/wp-content/uploads/downloads/2015/06/Citizens-Survey-on-Uganda-Vision-2040.pdf) provides an updated value of penetration of various cooking technologies in Uganda and the same has been used in the revised ER calculator for determining η_{wb}. Based on aforesaid, the η_{wb} value has been revised from 12.41% to 11.70%.</p>				
Documentation provided by CME				
PoA 9948 - MP#1 ER Calculator v2.0 06072018 PoA 9948 - MP#1 MR v2.0 06072018				
DOE assessment				Date: 11/09/2018
<p>The parameter "Efficiency of water boiling system being replaced" is based on the 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. The Verification Team identified that the applied data (version 01 of ER) was based on the "The Uganda Bureau of Statistics", household survey data in 2009/10 undertaken on the national / regional level. However, recently the Uganda National NGO Forum and UNDP published "CITIZENS' SURVEY ON UGANDA VISION 2040".</p> <p>The survey was conducted in 15,980 household in 34 districts of Uganda. The data collection was at the sub national level. The chapter 5, which confirms that Uganda's energy sector is dominated by biomass that contributes nearly 90% of the total primary energy consumed.</p> <p>Fuel wood and charcoal are principal cooking fuels in Uganda in addition to being fuel sources for small and medium scale. As per chapter 5, 97.2% of the respondents reported that the main sources of fuel for cooking included firewood and charcoal. In addition, efforts are under process to ensure that firewood consumption is reduced/ avoided as forest cover in the country will be depleted.</p> <p>The para "Source of cooking fuel", Table 11 (under chapter 5 of the report) states the Main Sources of Cooking Fuel at Household Level. Table 12, states Main Cooking Technology at Household Level. The verification Team confirms that the values sated under Table 12 corresponds with the emission reduction worksheet, tab "ER Summary", except the total for the "% of OBBS users" is incorrectly stated as 13.4 (correct value is 13.5).</p>				

Assessment of consistency between the Table 12 and ER worksheet:

Parameter	Value applied in the ER worksheet	Reference	Assessment Team Response
% of UBBS users	85.7%	Table 12, page 23, citizen Survey On Uganda, vision 2040, http://ngoforum.or.ug/wp-content/uploads/downloads/2015/06/Citizens-Survey-on-Uganda-Vision-2040.pdf	Appropriate Traditional 3-stone open fire (67.2) + Traditional stove (Sigiri) (18.5) = 85.7 %
% of OBBS users	13.4%	Table 12, page 23, citizen Survey On Uganda, vision 2040 http://ngoforum.or.ug/wp-content/uploads/downloads/2015/06/Citizens-Survey-on-Uganda-Vision-2040.pdf	Not OK. Improved charcoal stove (8.4) + Improved firewood stove (5.1) = 13.5 %
% of FFS users	0.9%	Table 12, page 23, citizen Survey On Uganda, vision 2040 http://ngoforum.or.ug/wp-content/uploads/downloads/2015/06/Citizens-Survey-on-Uganda-Vision-2040.pdf	Appropriate Gas stove/cooker (0.4) + Paraffin stove (0.2) + Others (0.2) + Electric plate/cooker (0.1) = 0.9 %

Thus the applied value of the parameter has passed below following tests of the Assessment Team:

Requirements	Met (Yes/ No) ?
Is the most recent database applied?	Yes, please refer below assessment.
Is the biennial frequency adopted?	Yes, the monitoring report covers duration 2014- 2017. The report is published in year 2015. Thus the date of publication report (May 2015) is 02 years prior to the end date of applied monitoring period (May 2017).
Is the survey capturing national, or regional data	Yes
Is it default value 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?	Yes
Is it monitored and most recent data base is applied?	Yes

Thus, the applied value is not considered as appropriate. CL has been KEPT OPEN.

CME response	Date:24/09/2018
The % of OBBS users has been updated to 13.5% in the MR and ER Calculator. The emission reductions have been revised accordingly.	
DOE assessment	Date: 27/09/2018
Appropriate correction is included. Consistent value of % of OBBS users (13.5 %) is now applied.	
Finding has been CLOSED.	
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Table 3. CARs from this verification

CAR ID	1	Section no.	MR Form CDM PoA version 02	Date:	07/12/2017
Description of CAR					
Below inconsistencies are identified with respect to filling of "Monitoring Report Form for CDM programme of activities", (Version 02.0)					

Front page:

- 1) Section "Version number of this monitoring report" is incorrectly stated as "Impact Carbon"
- 2) Section "Monitoring report number" for this monitoring period is not clear if single CPA or multiple separate monitoring reports for the monitoring period for different batches of CPAs in the PoA are applied.
- 3) Section "Coordinating/ managing entity" is not filled
- 4) Section "Host Parties" appropriately enlist all host Parties under the PoA. However, MR states that CPA from the entire host Party are covered under the applied monitoring period. This is contradictory with section E.3 of MR.
- 5) Section "Amount of GHG emission reductions or net anthropogenic GHG removals achieved by all CPAs covered in this monitoring report in this monitoring period" and "Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the CPA-DDs for the CPAs covered in this monitoring report" are not filled as per requirements of form. Furthermore, the estimated and achieved emission reductions are stated as 135, 064 tCO₂.

Section A.1.2 of MR:

- 1) The section A.1.2 does not enlist all the CPA that are included into the PoA
- 2) Crediting period of CPA-3 is inconsistently stated (Cp project page)
- 3) As per section A.1.2 the CPA-1, CPA-3 and CPA-4 are covered under MR however section E.3 states only regarding CPA-2

Section A.2 of MR:

The details stated under section A.2 are not consistent with the Modalities of communication.

Section B of MR:

- 1) The section B.1 of MR does not provide information on how the management system described in the PoA-DD is implemented in accordance with applicable provisions on the implementation of the management system for a PoA in the project standard.
- 2) The section B.1 of MR does not indicate whether a sampling approach was applied for monitoring of a group of CPAs or each CPA covered in this monitoring report, and elaborate details in section E.3.

Section C of MR:

The section C.1 of MR is deficient with respect to the information on the implementation and actual operation of the CPAs, including relevant dates (e.g. construction, commissioning, start of operation).

Section D of MR:

The Section D of MR lacks description of monitoring system as per the project standard and the monitoring plans in the respective CPA-DDs.

Ex-ante monitored Parameters:**Section E.1 of MR:**

- 1) Under the section E.1 of MR, the "Description" of the parameter "Case 1 or Case 2" is identified as inconsistent with respect to the CPA-DD.
- 2) The default value from the AMS I.E, version 5 for the parameter 'L' is identified as inconsistent with respect to the CPA-DD.
- 3) the parameter "EF_{EL,J,y}" the source of data referred is not consistent with that mentioned in the CPA-DD.

Project participant response (1st round)**Date:06/07/2018**

Below inconsistencies with respect to filling of "Monitoring Report Form for CDM programme of activities", (Version 02.0) have been rectified in the revised MR / ER calculator:

Front page:

- 1) "Version number of this monitoring report" has been corrected to 2.0

- 2) "Monitoring report number" has been mentioned as 1.0. At the end of the monitoring period, there were 3 CPAs included in the PoA. The concerned monitoring report only covers 9948-0002.
- 3) "Coordinating/ managing entity" has been filled to mention Impact Carbon
- 4) Section "Host Parties" has been revised to refer to Uganda only.
- 5) The ex-ante and actual achieved ER volumes have been rectified to be consistent with the ER calculator and other sections of revised MR.

Section A.1.2 of MR:

- 1) As per the CDM PoA-MR-Form Instructions, section A.1.2 requires listing of CPAs that have been included in the PoA at the end of the monitoring period. The concerned monitoring period ends at 22 May 2017. At that point, only 3 CPAs were included under the PoA which have been listed in the MR.
- 2) The CPA page on UNFCCC website mentions the crediting period start date for CPA 03 as 23 May 2017
https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/5J36IFUKQVNMRA0OZPGLH9C7S TED1W/viewCPAs?s=10
 Besides, it mentions the crediting period start date for CPA 03 as 30th Mar 2017 on the following page:
https://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/3OUFVZMXD8IBASE5R462T0JQ1G7KNH/view
 Thus, in light of above, the crediting period start date has been taken as 23rd May 2017 as the it cannot be prior to the date of inclusion of CPA in the PoA (08th May 2017).
- 3) Section A.1.2 the MR has been revised to mention that only CPA 02 is covered in the MR.

Section A.2 of MR:

As per latest MoC Annex 1 available on the PoA page at:

https://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/3OUFVZMXD8IBASE5R462T0JQ1G7KNH/view, Mr. Evan Haigler is the authorised representative of Impact Carbon. The address specified in Annex 1 is different from that mentioned in section A.2 of MR as the CME's office has been recently moved to the specified location.

Section B of MR:

- 1) Section B.1 of revised MR has been rectified to provide information on the implementation of the PoA management system described in the PoA-DD.
- 2) The section B.1 of revised MR has been rectified to confirm that the sampling approach was applied for monitoring of CPA – 02 alone, as covered in this monitoring report (refer point 5 on page 4 of revised MR).

Section C of MR:

The section C.1 of MR is has been revised to specify information on implementation and actual operation of the CPA.

Section D of MR:

The Section D of MR has been revised accordingly.

Ex-ante monitored Parameters:**Section E.1 of MR:**

- 1) Under the section E.1 of revised MR, the "Description" of the parameter "Case 1 or Case 2" has been made consistent with respect to the CPA-DD.
- 2) The default value for the parameter 'L' has been rectified in the revised MR to be consistent with respect to the CPA-DD.
- 3) For the parameter " $EF_{EL,J,y}$ " the source of data in revised MR is now consistent with that mentioned in the CPA-DD.

Documentation provided by project participant (1st round)

<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:

<input checked="" type="checkbox"/> Changes in MR	Section(s): Entire MR	New version No.: 2.0	
<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Entire Xls	New version No.: 2.0	
<input type="checkbox"/> Other:			
DOE assessment (1st round)		Date: 11/09/2018	
Assessment Team Response			
<p>Front page:</p> <ol style="list-style-type: none"> 1) "Version number of this monitoring report" has been corrected. 2) Monitoring report only covers CPA 9948-0002. The CPA 2 is undergoing the First Periodic Verification. Thus, the correction is deemed as appropriate. 3) Appropriate corrections are undertaken. 4) Uganda is appropriately stated as applicable "Host Party" for the applied boundary of CPA-002. 5) OK, appropriate calculation logic is applied under worksheet "Ex Ante Calculation". It is however noted that PP has excluded the estimated emission reduction for Year 2014 as no ER are being claimed for that period. <p>Section A.1.2 of MR:</p> <ol style="list-style-type: none"> 1) PP need to justify the change in the duration of monitoring period compared to webhosted monitoring period. 2) Crediting period start date has been appropriately applied as 23rd May 2017 for CPA-003. 3) Accepted. <p>Section A.2 of MR: Accepted.</p> <p>Section B of MR:</p> <ol style="list-style-type: none"> 1) Section B.1 of revised MR appropriately states implementation of the PoA management system described in the PoA-DD. 2) The information pertaining to the sampling approach is appropriately stated. <p>Section C of MR: The section C.1 of MR is appropriately states CPAs covered in this monitoring report (i.e. CPA-002), measures taken for GHG emission reductions, implementation status of the CPAs covering description of the installed technology, technical processes and equipment and information on implementation and actual operation of the CPA (Start date of CPA-DD, Date of installation of first unit, continued operation period).</p> <p>Section D of MR: No changes are apparent</p> <p>Ex-ante monitored Parameters:</p> <p>Section E.1 of MR:</p> <ol style="list-style-type: none"> 1) Appropriate corrections are undertaken to maintain consistency 2) Default value of parameter 'L' is appropriately updated in line with CPA-DD. 3) Still not consistent <p>Finding has been KEPT OPEN</p>			
CME response		Date: 24/09/2018	
Section A.1.2 of MR:			
Milestone	MR version 1.0	MR version 3.0	Justification
MP#1 Start date	02/05/2014	30/05/2014	<p>The start date of crediting period for CPA-01 and CPA-02 is 30/05/2014 https://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/QTRXPJS60MFBVALE124H3K8Y5DG9NI/view. Thus, the monitoring period cannot start prior to the start date of crediting period of the first CPA included in the PoA.</p>

MP#1 end date	31/08/2017	22/05/2017	The end date of the monitoring period has been cut short to 22/05/2017 to ensure that crediting for CPA-03 and CPA-04 (crediting period starting on 23 May 2017 and 15 Jun 2017 resp.) does not fall under the current monitoring period given CPA-03 and CPA-04 are not covered under the concerned monitoring report. Further, this shall also ensure that the next monitoring period remains coherent and continuous for all CPAs in the subsequent verification.
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Section D of MR:
Section D has been revised to refer to section E.2 and E.3 which details the monitoring system for various parameters.

Ex-ante monitored Parameters:
Section E.1 of MR:
3) The parameter table for $EF_{EL,j,y}$ has been revised to update the reference of the tool applied in under "Choice or measurement methods and procedures"

DOE assessment	Date: 29/09/2018
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Section A.1.2 of MR:
Argument of the CME pertaining to the change in the applied MP is accepted. The evaluation of the ER for the changed MP is undertaken by the Verification Team. Accordingly the CME has updated the input data as well as the expected emission reduction (relevant to the applied MP).

Section D of MR:
The section D is now appropriately updated to cover the details of the monitoring systems pertaining to the "Total Sales Record", "Other performance parameters" and "Organizational structure / role and responsibilities of monitoring personnel"

Ex-ante monitored Parameters:
Section E.1 of MR:
3) The parameter is updated appropriately.

All pending above issues are appropriately addressed, however, PP shall further address the following points:

1. Section A.1.2 of the MR is not in line with the MR-FORM As per FORM, "In the first column of the table, indicate the titles and UNFCCC reference numbers of all CPAs included in the PoA as of the end of the date of this monitoring period. "
2. In Section of the MR, location mentioned is not in line with registered CPA DD
3. Section E.3 of the MR are not assessed to be provided with exact parameter description as per the registered CPA 2 DD.
4. Section C.1 of the MR lack information on avoidance of double counting by the CPA 2.

CAR is still open.

CME response	Date: 24/10/2018
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1. Section A.1.2 of the MR has been revised to mention the titles of all CPAs included in the PoA as of the end of the date of this monitoring period.
2. Section C.2 of the MR has been revised to mention the location in line with the CPA 2 registered CPA-DD.
3. Section E.3 of the MR has been revised to mention the parameter description in line with that mentioned in the registered CPA 2 DD.
4. Section C.1 of the MR has been revised to detail avoidance of double counting by the CPA 2.

DOE assessment	Date: 25/10/2018
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1. Revised MR version 04 under section A.1.2 is assessed to be correctly revised with regards to titles of all the CPAs included in the PoA as of the end of the current monitoring period. CAR point is closed.
2. Revised MR version 04 dated 24/10/2018, is appropriately corrected the section C.2 in line with registered CPA DD, CAR point is closed out.
3. Parameter description is found correctly revised as per the registered CPA DD in the most recent version of the MR. CAR point is closed.

4. Explanation on avoidance of double counting is found included in the section C.1 of the revised MR and hence, CAR point is closed out.	
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

CAR ID	02	Section no.	E.2	Date:07/12/2017
Description of CAR				
A consolidated CAR is raised on monitoring parameter of the webhosted MR as follows:				
Parameter “QPW_y”				
<ul style="list-style-type: none"> The vintage-wise reporting is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameters “QPW_y” The monitoring frequency is not stated in line with the CPA-DD, section D.7.1 for parameter “QPW_y” 				
Parameter “N_{y,i}”				
<ul style="list-style-type: none"> The “Calculation method” for parameter N_{y,i} is not transparent and inline with the CPA-DD, section D.7.1. The vintage-wise reporting is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameters “N_{y,i}” 				
Parameter “T_{y,i}”				
<ul style="list-style-type: none"> The vintage-wise reporting is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameters “T_{y,i}” 				
Parameter “Water Quality_i”				
<ul style="list-style-type: none"> The “Measurement methods and procedures” for parameter Water Quality_i as stated under CPA-DD, section D.7.1 are not stated under the section E.2 of MR for parameters “Water Quality_i” The monitoring plan is also unclear if the CPA-Operator has applied the annual or biennial frequency of monitoring for the parameter “Water Quality_i” 				
Parameter “Operational Units_i”				
<ul style="list-style-type: none"> The monitoring report is unclear regarding the actual frequency of the Sampling survey (Once per Verification or biennially) for the parameter “Operational Units_i” The “Measurement methods and procedures” for parameter Operational Units_i as stated under CPA-DD, section D.7.1 are not stated under the section E.2 of MR for parameters “Operational Units_i” The vintage-wise reporting (as per applied monitoring frequency) is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for the parameter “Operational Units_i” 				
Parameter “f_{NRB,y}”				
<ul style="list-style-type: none"> The “Description” of the parameter “f_{NRB,y}” is inconsistent with CPA-DD section D.7.1 The MR Section D.2 states various sources of data for determination of parameter “f_{NRB,y}”, however exact traceability of applied international reports and corresponding data is missing. The vintage-wise reporting (as per applied monitoring frequency) is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameters “f_{NRB,y}” Reference to the “Calculation of the fraction of non-renewable biomass” Version 01.0 is missing. 				
Parameter “η_{wb}”				
<ul style="list-style-type: none"> The vintage-wise reporting (as per applied monitoring frequency) is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameters “η_{wb}” The monitoring plan is also unclear if the CPA-Operator has applied the annual or biennial frequency of monitoring for the parameter “η_{wb}” 				
Parameter “ECPJ_{j,y}”				

<ul style="list-style-type: none"> The MR section E.2 states multiple source of data (survey, manufacturer's specification, direct monitoring) for parameter "ECP_{Ji,y}", however the exact reference is missing. Assumption of 14 watt hour capacity (compared to the assumed value of 100 Watt hour, Section D.7.1 CPA-DD) is not backed by credible substantiation. The vintage-wise reporting (as per applied monitoring frequency) is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameters "ECP_{Ji,y}" The monitoring plan is also unclear if the CPA-Operator has applied the annual or biennial frequency of monitoring for the parameter "ECP_{Ji,y}" 		
Project participant response (1st round)		Date:06/07/2018
<p>Parameter "QPW_y"</p> <ul style="list-style-type: none"> The vintage-wise reporting has been revised for parameter "QPW_y" "QPW_y" is a calculated value. The monitoring frequency has therefore been mentioned as calculated based on biennial sampling results <p>Parameter "N_{y,i}"</p> <ul style="list-style-type: none"> The "Calculation method" for parameter N_{y,i} has been revised to be in line with the CPA-DD, section D.7.1. The vintage-wise reporting has been revised for parameter "N_{y,i}" <p>Parameter "T_{y,i}"</p> <ul style="list-style-type: none"> The vintage-wise reporting has been revised for parameters "T_{y,i}" <p>Parameter "Water Quality_i"</p> <ul style="list-style-type: none"> The "Measurement methods and procedures" for parameter Water Quality_i has been revised to meet compliance with the requirements stated under CPA-DD, section D.7.1 Biennial frequency of monitoring for the parameter has been clearly specified for the parameter "Water Quality_i" <p>Parameter "Operational Units_i"</p> <ul style="list-style-type: none"> Biennial frequency of monitoring for the parameter has been clearly specified for the parameter "Operational Units_i" The "Measurement methods and procedures" for parameter Operational Units_i has been revised to meet compliance with the requirements stated under CPA-DD, section D.7.1 The vintage-wise reporting has been revised for parameter "Operational Units_i" <p>Parameter "f_{NRB,y}"</p> <ul style="list-style-type: none"> The "Description" of the parameter "f_{NRB,y}" has been revised to be consistent with CPA-DD section D.7.1 Please refer ER calculator, ER summary tab, cells E15:G15 The vintage-wise reporting has been revised for parameter "f_{NRB,y}" The reference to tool is not required as it has not been used. The updated value is on account of updated % fuel usage based on published reports. <p>Parameter "η_{wb}"</p> <ul style="list-style-type: none"> The vintage-wise reporting has been revised for parameter "η_{wb}" Biennial frequency of monitoring for the parameter has been clearly specified for the parameter "η_{wb}" <p>Parameter "ECP_{Ji,y}"</p> <ul style="list-style-type: none"> The MR section E.2 states manufacturer's specification as the source for parameter "ECP_{Ji,y}" The manufacturer specification sheet substantiating the capacity of the system to be 14W is being submitted. The vintage-wise reporting has been revised for parameter "ECP_{Ji,y}" "ECP_{Ji,y}" has been calculated conservatively based on manufacturer specifications and assuming the device to be operating 24 hours a day all year 		
Documentation provided by project participant (1st round)		
<input type="checkbox"/> Changes in the PoA-DD	Section(s):	New version No.:

<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:
<input checked="" type="checkbox"/>	Changes in MR	Section(s): Entire MR	New version No.: 2.0
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): Entire Xls	New version No.: 2.0
<input type="checkbox"/>	Other:		
DOE assessment (1st round)			Date: 11/09/2018
Assessment Team Response:			
<p>Parameter “QPW_y”</p> <ul style="list-style-type: none"> This value is dependent on N_{y,i}. Closure is subjected to appropriate corrections for N_{y,i} Explanation is accepted <p>Parameter “N_{y,i}”</p> <ul style="list-style-type: none"> The calculation logic is still incorrect. Please clarify. Accepted <p>Parameter “T_{y,i}”</p> <ul style="list-style-type: none"> The representation of value is incorrect. Vintage-wise data is requested. <p>Parameter “Water Quality_i”</p> <ul style="list-style-type: none"> OK, monitoring report is appropriately reported. This was also assessed on site by the verification Team Ok. Biennial frequency of monitoring for the parameter has been clearly specified which is inline with CPA-DD. <p>Parameter “Operational Units_i”</p> <ul style="list-style-type: none"> Ok. Biennial frequency of monitoring for the parameter has been clearly specified which is inline with CPA-DD. Accepted as inline with the CPA-DD. <p>Parameter “f_{NRB,y}”</p> <ul style="list-style-type: none"> The “Description” is inline with the CPA-DD. The Weblink https://www.ubos.org/wp-content/uploads/publications/03_20182016_UNHS_FINAL_REPORT.pdf is not opening. So applied value cannot be confirmed. The value applicable to entire vintage-wise is now reported. OK, accepted. <p>Parameter “η_{wb}”</p> <ul style="list-style-type: none"> The Weblink https://www.ubos.org/wp-content/uploads/publications/03_20182016_UNHS_FINAL_REPORT.pdf is not opening. So applied value cannot be confirmed. Ok. Biennial frequency of monitoring for the parameter has been clearly specified which inline with CPA-DD. is <p>Parameter “ECP_{J,i,y}”</p> <ul style="list-style-type: none"> Accepted. Please submit manufacturer’s specifications. Accepted as a conservative measure established in CPA-DD. The single value applicable to entire vintage is appropriately mentioned. Accepted as conservative approach is adopted. 			
CME response			Date:24/09/2018
<p>Parameter “QPW_y”</p> <ul style="list-style-type: none"> The calculation of QPW_y has been revised to correctly account the average value of R_{y,i} based on the head count of Boarding / Non-boarding people in the school population and corresponding default water consumption per person per day. Also, the R_{y,i} has been adjusted according to the number of units installed in a school to avoid any over-estimation of emission reductions. For detail refer the ER calculator. <p>Parameter “N_{y,i}”</p>			

- The Calculation of $N_{y,i}$, has been corrected to taking into account the deployment date of filter unit in a school and its overlap with the concerned monitoring period.

Parameter “ $T_{y,i}$ ”

- The values represented in the MR refer to cumulative number of installations which are claiming credits in a monitoring year. Thus, total number of filter units installed in the CPA 2 till the end of the monitoring period is 580.

Parameter “ $f_{NRB,y}$ ”

- The full report is also being submitted

Parameter “ η_{wb} ”

The full report is also being submitted

DOE assessment

Date: 27/09/2018

Parameter “ QPW_y ”, “ $N_{y,i}$ ” and “ $T_{y,i}$ ”

The calculation of QPW_y depends on the parameters “ $T_{y,i}$ ” and “ $N_{y,i}$ ” Water Quality, Operational units, and $R_{y,i}$. The calculation logic is now updated and “ $N_{y,i}$ ” appropriately represents the persons/technology. The average value of $R_{y,i}$ is appropriately calculated by considering the head count of Boarding / Non-boarding people in the school population and corresponding default water consumption per person per day as appropriately stated under tab “ER Summary”. The verification team acknowledges that over estimation is avoided as $R_{y,i}$ has been adjusted according to the number of units installed in a school. Tab “PoA 9948 Sales DB” under ER worksheet is assessed and found appropriate.

PP has submitted reports associated with the link as reference for parameter “ $f_{NRB,y}$ ” and “ η_{wb} ” and hence CAR is closed.

Conclusion

Tick the appropriate checkbox

- ☐ Additional action should be taken (finding remains open)
☒ The finding is closed

CAR ID	03	Section no.	D,E	Date:	07/12/2017
Description of CAR					
The steps of implementation of sampling plan are not in line with the section D.7.2 of CPA-DD. The section is also not transparent about the monitoring parameters and method of determination of sample size. In addition, justification required for how sample size of 89 for the total population i.e. 1377 water purification units as per the MR meets the required precision and in line with Standard for sampling and survey for CDM PoA.					
Project participant response (1st round)					Date:
The sampling plan has been specified in detail in the revised MR in section E.3. Please refer the same for details on sampling approach, data collected and results. Also, the CPA 2 only includes 580 UV water purification units in the concerned monitoring period as specified in the revised MR. The remaining units ($797 = 1377 - 580$) that were specified in MR version 1.0 are outside CPA 2 boundary and hence not a part of the current monitoring data. Similarly, only 33 samples out of 89 samples reported in the MR version 1.0 belong to CPA 2 population. The remaining samples ($56 = 89 - 33$) reported in MR version 1.0 are outside the CPA 2 boundary. Hence the ER calculations have been revised accordingly and the MR has been revised to report the samples only falling under the CPA 2 population.					
Documentation provided by project participant (1st round)					
<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:		
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:		
<input checked="" type="checkbox"/>	Changes in MR	Section(s): Entire MR	New version No.: 2.0		
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): Entire Xls	New version No.: 2.0		
<input type="checkbox"/>	Other:				
DOE assessment (1st round)					Date:

The response has been submitted and description of sampling plan is deemed to be inline with the registered CPA-DD. Furthermore, it is also assessed the steps followed for sample size calculation for target population (value of sample size and target population are verified to be revised and coherent with sales database as verified during on-site audit).

CAR 03 has been CLOSED.

Conclusion

Tick the appropriate checkbox

- ☐ Additional action should be taken (finding remains open)
☒ The finding is closed

CAR ID	04	Section no.	E	Date: 07/12/2017
Description of CAR				
<p>The ER worksheet is not submitted, hence the appropriateness of</p> <ul style="list-style-type: none"> • Accurate application of the ex-ante values for calculation of emission reduction • Accuracy of the reported values in the MR, • Application of the monitored parameters for the calculation of the emission reduction • Appropriateness of the emission reduction calculation in line with the CPA-DD <p>Based on submission of ER calculation spreadsheet and other data associated with, entire reference /sources and ER calculations will be reassessed.</p>				
Project participant response (1st round)				Date: 06/07/2018
The ER worksheet is being submitted				
Documentation provided by project participant (1st round)				
<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): Entire MR	New version No.: 2.0	
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): Entire Xls	New version No.: 2.0	
<input type="checkbox"/>	Other:			
DOE assessment (1st round)				Date:
<p>ER worksheet is assessed. All the reported parameters correspond appropriately with the monitoring data. The logic of calculation is found consistent with the CPA-DD.</p> <p>Finding has been CLOSED.</p>				
Conclusion				
<i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

CAR ID	05	Section no.	E	Date: 07/12/2017
Description of CAR				
<p>Below documents are requested by the Verification Team:</p> <p>Parameter $N_{y,i}$</p> <ul style="list-style-type: none"> • Technical specification of the actually installed water purification systems • Sales database in chronological order • Sales receipt to cross check the Sales Record <p>$T_{y,i}$</p> <ul style="list-style-type: none"> • Sales database in chronological order • Sales receipt to cross check the Sales Record <p>Water Quality_i</p> <ul style="list-style-type: none"> • Conformance Certificate that the Aquagenix Water Testing kit meets the requirements of applied monitoring plan • Technical Specification of the Aquagenix Water Testing kit • Water Quality Testing Report on filtered water from the project technology under applied monitoring report (minimum requirement E.coli, TC Coliform, faecal coliform counts, chlorine levels) 				

- Training certificates of the Enumerators who were employed for water testing
- Copy of the training procedure
- Copy of water testing procedure

Operational Units;

- Sampling Surveys (for each technology type)
- Training certificates of the Enumerators who were employed for survey of Operational Units
- Copy of the training procedure for survey of Operational Units
- Copy of Questioner for undertaking the Sampling Survey

 $f_{NRB,y}$

- Applied international reports (with traceability) which are utilized for determination of the parameter $f_{NRB,y}$

“ECP_{J,y}”

- Manufacturer's specification with a statement of power consumption data for units distributed under applied monitoring period

Project participant response (1st round)	Date:06/07/2018
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The documents are being submitted

Documentation provided by project participant (1st round)

<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:
<input checked="" type="checkbox"/>	Changes in MR	Section(s): Entire MR	New version No.: 2.0
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): Entire Xls	New version No.: 2.0
<input type="checkbox"/>	Other:		

DOE assessment (1st round)	Date:27/09/2018
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Parameter	Document Requested	TUV Assessment
N _{y,i}	1. Technical specification of the actually installed water purification systems	Client Response: Refer “UV Systems Technical Specifications Sheet” TUV Comment: Submitted
	2. Sales database in chronological order	Client Response: Refer the Sales database included in the ER calculator – “PoA 9948 - MP#1 ER Calculator v3.0 24092018”, Worksheet - “PoA 9948 Sales DB” TUV Comment: OK
	3. Sales receipt to cross check the Sales Record	Client Response: Refer the “Sample Sales Receipt” and “Sample Installation forms” and “Sample Salesforce Reports” TUV Comment: TUV Comment: OK
T _{y,i}	1. Sales database in chronological order	Client Response: Refer the Sales database included in the ER calculator – “PoA 9948 - MP#1 ER Calculator v3.0 24092018”, Worksheet - “PoA 9948 Sales DB” TUV Comment: OK
	2. Sales receipt to cross check the Sales Record	Client Response: Refer the “Sample Sales Receipt” and “Sample Installation forms” and “Sample Salesforce Reports” TUV Comment:

		The "Sample Salesforce Reports" for "Namungoona Parents Junior" does not state any value for the total number of staff still the tab "PoA 9948 Sales DB" states 30. Please clarify
Water Quality _i	1. Conformance Certificate that the Aquagenix Water Testing kit meets the requirements of applied monitoring plan	Client Response: Refer "Aquagenix Testing Kit Specifications", the conformance to WHO guidelines is given on page 3 TUV Comment: OK
	2. Technical Specification of the Aquagenix Water Testing kit	Same as 1. Above, refer page 1 TUV Comment: OK
	3. Water Quality Testing Report on filtered water from the project technology under applied monitoring report	Client Response: Refer "Sample Monitoring Records", section Water Quality TUV Comment: OK
	4. Training certificates of the Enumerators who were employed for water testing	Client Response: Refer "Training Certificates for Tests" TUV Comment: OK
	5. Copy of the training procedure	Client Response: Refer "Aquagenix Test Training Module" TUV Comment: OK
	6. Copy of water testing procedure	Client Response: Same as 1. Above, refer page 2 and 3 TUV Comment: OK
Operational Units _i	1. Sampling Surveys (for each technology type)	Client Response: Refer "Sample Monitoring Records", section Usage TUV Comment: OK
	2. Training certificates of the Enumerators who were employed for survey of Operational Units	Client Response: Refer "Training Certificates for Surveys" TUV Comment: OK. But please submit the cert of other enumerators also. As per submitted records the Training Cert for Survey and Test belong to same person named "Moreen Akankunda"
	3. Copy of the training procedure for survey of Operational Units	Client Response: Refer "Survey Training module" TUV Comment: OK
	4. Copy of Questionnaire for undertaking the Sampling Survey	Client Response: Same as 1. Above TUV Comment: OK
f _{NRB,y}	1. Survey report for determination of the fraction of the woody biomass saved by the project activity	Client Response: No survey was conducted for f _{NRB,y} TUV Comment: OK
	2. Applied international reports (with traceability) which are utilized for determination of the parameter f _{NRB,y}	Client Response: The value of f _{NRB,y} for biomass, fossil fuel and renewable fuel has been fixed ex-ante. The % of users using each of these fuel types in the baseline has been determined from published literature publicly

		available. The reference to the sources used are specified in the ER calculator. TUV Comment: OK
	3. Training procedures for enumerator for determination of the parameter $f_{NRB,y}$	Not applicable
ECPJ _{j,y}	1. Survey report for determination of the parameter "ECPJ _{j,y} "	Client Response: No survey was conducted for ECPJ _{j,y} TUV Comment: OK conservative assumption ex-ante value
	2. Manufacturer's specification with a statement of power consumption data for units distributed under applied monitoring period	Client Response: Refer "UV Systems Technical Specifications Sheet" TUV Comment: OK
	3. Training procedures for enumerator for determination of the parameter "ECPJ _{j,y} "	Client Response: Not applicable, the ECPJ _{j,y} has been calculated based on 14W electrical capacity per unit (highly conservative) whereas the technical specifications indicate it to be 6W and 14W TUV Comment: OK

Finding has been CLOSED.

Conclusion

Tick the appropriate checkbox

- ☐ Additional action should be taken (finding remains open)
☒ The finding is closed

CAR ID	06	Section no.	F	Date: 07/12/2017
Description of CAR				
<p>Webhosted MR under section F.5 presented with the value of estimated emission reduction under the current monitoring period as 28,535, however as per the registered CPA-DD-02(9948-0002) annual estimated emission reduction is 12,856. This can be further elaborated on what basis this value is calculated by the PP.</p> <p>Moreover, as per the assessment of section F.6 (Remarks on achieved ER) the value of estimated ER is not correct. Furthermore remarks on increase of the ER from estimated to accrue is required to be substantiated with objective evidences.</p>				
Project participant response (1st round)				Date: 06/07/2018
<p>The annual emission reduction mentioned as 12,856 in the registered CPA-DD is the 7 year average. The value of ex-ante emission reduction of 24,877 specified in MR in section F.6 has been calculated using the year 1, year 2 and year 3 ex-ante ER volumes specified in the CPA-DD and proportioning it to the duration of the concerned monitoring period. For details refer the ER calculator worksheet, "Ex-ante Calculation".</p>				
Documentation provided by project participant (1st round)				
<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): Entire MR	New version No.: 3.0	
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): Entire Xls	New version No.:3.0	
<input type="checkbox"/>	Other:			
DOE assessment (1st round)				Date: 24/09/2018
<p>Accepted. The calculation logic is now consistent with the tab: "Ex Ante Calculation" of ER worksheet.</p> <p>CAR is closed out.</p>				
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Table 4. FARs from this verification

FAR ID		Section No.		Date: XX/XX/XXXX
Description of FAR				
n.a.				
CME response				Date:XX/XX/XXXX
Documentation provided by CME				
DOE assessment				Date:XX/XX/XXXX

Appendix 5. Monitored Parameters

Table A-5:Periodic Verification Checklist – Monitored Parameters

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
A.1.1.	N_{y,i}	CPA No.: 9948-0002	Description: The average population serviced by water purification systems		
<p>a) Measurement / Determination method (VVS, §§ 268, 271) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</i></p>		<p>/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /MONIT/</p>	<p><i>Description:</i> The parameter represents the average population serviced by water purification systems. The number of person/ equipment depends on the technical specification / design duty of the equipment. The Verification Team requested the Technical specification of the actually installed water purification systems and verified them with the sales receipts / database. During the site visit interviews the PP confirmed that during the time of sale, the number of people using the unit is recorded in the sales receipt. The Verification Team requested the technical specification of the water purification systems to PP (refer CAR 05). In addition the ER worksheet is not submitted (at time of desk review) to verify the reported parameter, thus conformance on the appropriateness of reporting of parameter consistency of the applied value, appropriateness of value with respect to applied monitoring plan, appropriateness of emission reduction calculation is pending (refer CAR 04). The “Calculation method” for parameter N_{y,i} is not transparent the same is also not inline with the CPA-DD, section D.7.1 and the vintage-wise reporting is not as per prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameters “N_{y,i}” (refer CAR 02). The data is taken as the input for the ER calculations meaning it is the basis for determining of the CPA baseline emission reductions. Please refer to Appendix-4 for detail</p> <p><i>Verifier’s action:</i></p>	CAR-05, CAR-03, CAR-02	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>The N_{y,i} covering this monitoring period was verified by verification team by requesting the technical specification / design duty and sales receipts / database applicable to the monitoring period. The monitoring management was also cross verified by the onsite observation and interview with the CME, CPA implementer, consultant and verification on database system maintained by the CME</p> <p><i>Conclusion:</i> Pending issues are identified. Please refer CAR 05, CAR 04, CAR 02.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 272-278) <i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs. Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	<p>/MR/ /MRT/ /AMS-III.AV/ /XLS/ /ELIG/ /MONIT/ /IM/</p>	<p><i>Description:</i> As per the interviews with the CPA Operator and the CME the “The average population serviced by water purification systems” is recorded at the time of sale, the number of people using the unit is recorded in the sales receipt. The data of the water purification unit is entered into the sales database. This Sales database is verified from the hard copy of the sales receipt. In addition the parameter can also be verified from the technical specification of the water purification unit. However the document submission is still pending from the CME. Please refer CAR 02 and CAR 04.</p> <p><i>Verifier’s action:</i> Project personnel were also interviewed. CME and CPA operator QA/ QC measures were assessed. Pending documents for undertaking the implementation of QA/ QC measures was requested</p> <p><i>Conclusion:</i> The verification team would give final conclusion when related findings are addressed by the PP.</p>	<p>CAR-02, CAR-04</p>	<p>OK</p>

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
c) Correctness (VVS, §§ 268, 271) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i> <i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		/XLS/ /MR/ /VVS/ /ELIG/ /MONIT/ /IM/	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) <i>Description:</i> In absence of <ul style="list-style-type: none"> • Project / Sales database • Paper Records to cross check the Sales Receipts • Technical specification of the actually installed water purification systems and • Pending ER worksheet the reported data cannot be assessed as correct. <i>Verifier's action:</i> In addition to the onsite review, pending documentation was requested, please refer above assessments. <i>Conclusion:</i> The verification team would give final conclusion when related findings CAR 05, CAR 04, CAR 02.	CAR-05, CAR-04, CAR-02	OK
A.1.2. T_{y,i}	CPA No.: 9948-0002		Description: Total distributed water purification systems		
a) Measurement / Determination method (VVS, §§ 233, 236) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination</i>		/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /MONIT/	<i>Description:</i> The parameter represents the total number of units that are distributed during the applied monitoring period. The distributed units are included under the sales database. The paper records of sales invoices are the means of cross verification of the sales database. As per the provisions of the monitoring plan of CPA-DD, the parameter is reported based on the Sales receipts. During the site visit interview, the CPA operator confirmed that the units that are not part of the Project/ Sales Database are not considered for the calculation of the emission reductions.	CAR-05, CAR-04, CAR-02	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</i></p>		<p>The Verification Team is not in receipt of the Project / Sales database / Invoices, thus the parameter could not be checked (refer CAR 05). The CPA operator has not submitted the ER worksheet, thus the "Calculation method" for parameter $T_{y,i}$ cannot be confirmed as transparent and in line with the CPA-DD, section D.7.1; also the vintage-wise reporting is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameter "$T_{y,i}$" (refer CAR 02). In addition the ER worksheet is not submitted to verify the application of reported parameter, thus conformance on the appropriateness of reporting of parameter consistency of the applied value, appropriateness of value with respect to applied monitoring plan, appropriateness of emission reduction calculation is pending (refer CAR 04). Please refer to Appendix-4 for details.</p> <p><i>Verifier's action:</i></p> <p>The $T_{y,i}$ covering this monitoring period was verified by verification team by requesting the sales receipts / database applicable to the monitoring period. This Sales database is verified from the hard copy of the sales receipt, thus sales receipts are also requested. The monitoring management was also cross verified by the onsite observation and interview with the CME, CPA implementer, consultant and verification on database system maintained by the CME</p> <p><i>Conclusion:</i></p> <p>Pending issues are identified. Please refer CAR 05, CAR 04, CAR 02.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243) <i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most</i></p>	<p>/MR/ /MRT/ /AMS-III.AV/ /XLS/</p>	<p><i>Description:</i></p> <p>During the onsite interviews it is confirmed that Sales Database is cross-checked with paper records (by CME) to ensure transparent and robust data reporting. The CME also confirmed that the units that are not functional or replaced are captured in monitoring the parameter Operational Units. However, at time of desk review, the</p>	<p>CAR-02, CAR-04</p>	<p>OK</p>

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	<p>/ELIG/ /MONIT/ /IM/</p>	<p>supporting documents, ER worksheet and sales data is not submitted, thus findings are raised by the Verification Team. CAR 02 and CAR 04 are raised.</p> <p><i>Verifier's action:</i></p> <p>Project personnel were also interviewed.</p> <p>CME and CPA operator QA/ QC measures were assessed.</p> <p>Pending documents for undertaking the implementation of QA/ QC measures was requested</p> <p><i>Conclusion:</i></p> <p>The verification team would give final conclusion when related findings are addressed by the PP.</p>		
<p>c) Correctness (VVS, §§ 233, 236)</p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/XLS/ /MR/ /VVS/ /ELIG/ /MONIT/ /IM/</p>	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>In absence of</p> <ul style="list-style-type: none"> • Project / Sales database in chronological order • Sales receipt to cross check the Sales Record • Proof of distribution of units during applied monitoring period other than sales receipts example photographs, campaign, in case applicable • Pending ER worksheet <p>the reported data cannot be assessed as correct</p> <p><i>Verifier's action:</i></p> <p>In addition to the onsite review, pending documentation was requested, please refer above assessments.</p> <p><i>Conclusion:</i></p> <p>The verification team would give final conclusion when related findings CAR 05, CAR 04, CAR 02.</p>	<p>CAR-05, CAR-04, CAR-02</p>	<p>OK</p>

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
A.1.3. Water Quality	CPA No.: 9948-0002		Description: Water quality measurement		
<p>a) Measurement / Determination method (VVS, §§ 233, 236) Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</p>		/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /SAMPLE / /MONIT/	<p><i>Description:</i></p> <p>This parameter is crucial as it allows counting of only those purification units which qualify the necessary water quality levels. According to MR, Aquagenix Water Testing kit was utilized for the water quality testing. Also the CPA implementer is responsible to undertake the water testing with the help of the trained enumerators. During the desk review, the Verification team has requested below documents:</p> <ul style="list-style-type: none"> • Conformance Certificate that the Aquagenix Water Testing kit meets the requirements of applied monitoring plan • Technical Specification of the Aquagenix Water Testing kit • Water Quality Testing Report on filtered water from the project technology under applied monitoring report (minimum requirement E.coli, TC Coliform, faecal coliform counts, chlorine levels) • Training certificates of the Enumerators who were employed for water testing • Copy of the training procedure • Copy of water testing procedure <p>Refer CAR 05 for further details.</p> <p>The vintage-wise reporting (as per applied monitoring frequency) is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy and the monitoring plan is also unclear if the CPA-Operator has applied the annual or biennial frequency of monitoring . Refer CAR 03 for further details.</p> <p>In addition the ER worksheet is not submitted to verify the application of reported parameter, thus conformance on the appropriateness of reporting of parameter consistency of the applied value, appropriateness of value with respect to applied</p>	CAR-05, CAR-04, CAR-03	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>monitoring plan, appropriateness of emission reduction calculation is pending (refer CAR 04). Please refer to Appendix-4 for details.</p> <p><i>Verifier's action:</i></p> <p>The sampling plan has been cross checked by verification team according to EB sampling guideline and applied methodology.</p> <p>The results of Water Quality measurement (especially as per requirements of the monitoring plan was assessed) has been also verified by means of on-site visit and interview (sample based) and assessment of list of equipment as per the Sales Database.</p> <p>The researcher has been interviewed, w.r.t. the design and implementation of sampling plan, the independence and competence of survey implementer was assessed.</p> <p>Technical Specification of the Aquagenix Water Testing kit was assessed with respect to the requirements of the monitoring plan</p> <p><i>Conclusion:</i></p> <p>Pending issues are identified. Please refer CAR 05, CAR 04, CAR 02.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	<p>/MR/ /MRT/ /AMS-III.AV/ /XLS/ /SAMPLE/ /ELIG/ /MONIT/ /IM/</p>	<p><i>Description:</i></p> <p>During the onsite interview, the CPA Operator and CME confirmed that cost-effective and feasible water quality indicators like E.coli, faecal coliform counts, chlorine levels was utilized to assess water quality. CPA implementer conducted testing. CPA Operator has trained enumerators with respect to standard testing procedures and the appropriate testing technology Aquagenix Water Testing kit was employed.. However, documentary evidence for the same is requested by the Verification Team. Please refer CAR 03 and CAR 04.</p> <p><i>Verifier's action:</i></p> <p>Enumerators undertaking testing were also interviewed.</p>	CAR-03, CAR-04	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>Implementation of CME and CPA operator QA/ QC measures were discussed</p> <p>Pending documents for undertaking the implementation of QA/ QC measures was requested</p> <p>The sampling plan has been cross checked by verification team according to EB sampling guideline and applied methodology.</p> <p><i>Conclusion:</i></p> <p>The verification team would give final conclusion when related findings are addressed by the PP.</p>		
<p>c) Correctness (VVS, §§ 233, 236) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i> <i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/XLS/ /MR/ /VVS/ /SAMPLE / /ELIG/ /MONIT/ /IM/</p>	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> In absence of</p> <ul style="list-style-type: none"> • Sampling Survey (annual or atleast biennial) • Conformance Certificate that the Aquagenix Water Testing kit meets the requirements of applied monitoring plan • Technical Specification of the Aquagenix Water Testing kit • Water Quality Testing Report on filtered water from the project technology under applied monitoring report (minimum requirement E.coli, TC Coliform, faecal coliform counts, chlorine levels) • Training certificates of the Enumerators who were employed for water testing • Copy of the training procedure • Copy of water testing procedure • Pending ER worksheet <p>the reported data cannot be assessed as correct</p> <p><i>Verifier's action:</i></p>	<p>CAR-05, CAR-04, CAR-02, CAR-03</p>	OK

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
			<p>In addition to the onsite review, pending documentation was requested, please refer above assessments.</p> <p><i>Conclusion:</i></p> <p>The verification team would give final conclusion when related findings CAR 05, CAR 04, CAR 02, CAR 03.</p>		
A.1.4. Operational Units;	CPA No.: 9948-0002		Description: Monitoring to check the percentage of the monitoring period which technologies are in use.		
<p>a) Measurement / Determination method (VVS, §§ 233, 236) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</i></p>		<p>/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /SAMPLE / /MONIT/</p>	<p><i>Description:</i></p> <p>This parameter is determined based on surveys conducted on the sample units (per each technology type) to determine the percentage of days of monitoring period when the unit is in use by the end user.</p> <p>The vintage-wise reporting (as per applied monitoring frequency) is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy and the monitoring report is unclear regarding the actual frequency of the Sampling survey (Once per Verification or biennially) Refer CAR 02 for further details.</p> <p>At the time of Desk Review, the Verification Team is not in receipt of the Surveys, thus appropriateness of conducted survey and the value of the parameter as applied in the emission reduction worksheet and monitoring cannot be confirmed. The Verification Team has requested below documents from the CPA-Operator:</p> <ul style="list-style-type: none"> • Sampling Surveys (for each technology type) • Training certificates of the Enumerators who were employed for survey of Operational Units 	CAR-05, CAR-04, CAR-02, CAR-03	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<ul style="list-style-type: none"> • Copy of the training procedure for survey of Operational Units • Copy of Questioner for undertaking the Sampling Survey <p>Refer CAR 05 for further details. In addition the ER worksheet is not submitted to verify the application of reported parameter, thus conformance on the appropriateness of reporting of parameter consistency of the applied value, appropriateness of value with respect to applied monitoring plan, appropriateness of emission reduction calculation is pending (refer CAR 04). Please refer to Appendix-4 for details.</p> <p><i>Verifier's action:</i></p> <p>The sampling plan has been cross checked by verification team according to EB sampling guideline and applied methodology.</p> <p>The results of technologies are in use has been also verified by means of on-site visit and interview (sample based) and assessment of list of equipments as per the Sales Datanase.</p> <p>The researcher has been interviewed, w.r.t. the design and implementation of sampling plan, the independence and competence of survey implementer was assessed.</p> <p><i>Conclusion:</i></p> <p>Pending issues are identified. Please refer CAR 05, CAR 04, CAR 02, CAR03.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243) In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most</p>	<p>/MR/ /MRT/ /AMS-III.AV/ /XLS/</p>	<p><i>Description:</i></p> <p>During the site visit interviews, it is noted that the CPA Operator employs Enumerators to conduct the surveys with the help of the sales data which provides the unique identity of the water purification unit. The Enumerators also confirmed that the units are discarded from the survey if the unique serial number is no longer visible and date of purchase of the unit is not confirmed or if unit is replaced. The enumerator also confirmed that if the specific unit</p>	<p>CAR-02, CAR-04</p>	<p>OK</p>

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	<p>/SAMPLE / /ELIG/ /MONIT/ /IM/</p>	<p>selected for monitoring has been replaced it will be marked as out of use from the beginning of the monitoring period, and be deemed to be operational for 0% of the relevant monitoring period. Thus, the requirements of QA / QC procedures of the monitoring plan were in place. However the appropriate implementation is subjected to the submission of appropriate supportive evidences. Please refer CAR 02 and CAR 04.</p> <p><i>Verifier's action:</i></p> <p>Enumerators undertaking testing were also interviewed.</p> <p>Implementation of CME and CPA operator QA/ QC measures were discussed</p> <p>Pending documents for undertaking the implementation of QA/ QC measures was requested</p> <p>The sampling plan has been cross checked by verification team according to EB sampling guideline and applied methodology.</p> <p><i>Conclusion:</i></p> <p>The verification team would give final conclusion when related findings are addressed by the PP.</p>		

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
c) Correctness (VVS, §§ 233, 236) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i> <i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		/XLS/ /MR/ /VVS/ /SAMPLE / /ELIG/ /MONIT/ /IM/	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) Description: In absence of <ul style="list-style-type: none"> • Sampling Surveys (for each technology type) • Training certificates of the Enumerators who were employed for survey of Operational Units • Copy of the training procedure for survey of Operational Units • Copy of Questioner for undertaking the Sampling Survey • Pending ER worksheet the reported data cannot be assessed as correct Verifier's action: In addition to the onsite review, pending documentation was requested, please refer above assessments. Conclusion: The verification team would give final conclusion when related findings CAR 05, CAR 04, CAR 02.	CAR 05, CAR 04, CAR 02	OK
A.1.5. QPW _y	CPA No.: 9948-0002		Description: Quantity of purified water in year y (litres)		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>a) Measurement / Determination method (VVS, §§ 233, 236) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</i></p>	<p>/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /SAMPLE / /MONIT/</p>	<p><i>Description:</i> It is a calculated parameter. The value depends on the product of parameters “The average population serviced by water purification systems” ($N_{y,i}$) X “Total distributed water purification systems” ($T_{y,i}$) X “Average volume of drinking water per person per day” ($R_{y,i}$) X days per year (365) X “Water quality measurement” (Water Quality_i) X “Monitoring to check the percentage of the monitoring period which technologies are in use” (Operational Units_i). The PP has stated the annual calculated values for the parameter “QPW_y”. The Verification Team identified that reporting years are reported as 1, 2, 3 and 4; however the vintage-wise reporting is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy. Please refer CAR 02. Furthermore the ER worksheet is not submitted to the Verification Team, thus appropriateness of the reported values could not be confirmed. In addition please refer to the corresponding above assessments to related parameters.</p> <p>CAR 02 and CAR 04 are raised. Please refer to Appendix-4 for details.</p> <p><i>Verifier’s action:</i> In addition to the onsite review, pending documentation was requested. Please check the above comments pertaining to the dependent parameters.</p> <p><i>Conclusion:</i> The verification team would give final conclusion when related findings CAR 04, CAR 02.</p>	<p>CAR 04, CAR 02</p>	<p>OK</p>

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
b) Accuracy and QA/QC Procedure (VVS, §§ 237-243) <i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs. Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i>		/MR/ /MRT/ /AMS-III.AV/ /XLS/ /SAMPLE / /ELIG/ /MONIT/ /IM/	Description: It is calculated value. Additional QA/ QC measures are not applicable. Verifier's action: Dependent parameters were assessed. Pending documents were requested. Sampling data of related parameters under monitoring was assessed Conclusion: The verification team would give final conclusion when related findings are addressed by the PP.	CAR-02, CAR-04	OK
c) Correctness (VVS, §§ 233, 236) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		/XLS/ /MR/ /VVS/ /SAMPLE / /ELIG/ /MONIT/ /IM/	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) Description: In absence of confirmation on the related parameters, calculated value of this parameter cannot be considered as OK. Verifier's action: In addition to the onsite review, pending documentation pertaining to related parameters was requested, please refer above assessments. Conclusion: The verification team would give final conclusion when related findings CAR 05, CAR 04, CAR02.	CAR-05, CAR-04, CAR-02	OK
A.1.6. $f_{NRB,y}$	CPA No.: 9948-0002		Description: Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>a) Measurement / Determination method (VVS, §§ 233, 236) Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</p>	<p>/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /SAMPLE / /MONIT/</p>	<p><i>Description:</i> The parameter is utilized to determine the baseline emissions. The Verification Team identified that the “Description” of the parameter “f_{NRB,y}” is inconsistent with CPA-DD section D.7.1. Furthermore the MR Section D.2 states various sources of data for determination of parameter “f_{NRB,y}”, however exact traceability of applied international reports and corresponding data is missing. Refer CAR 02 for further details. Also below documents are requested from the CPA operator:</p> <ul style="list-style-type: none"> Survey report for determination of the fraction of the woody biomass saved by the project activity Applied international reports (with traceability) which are utilized for determination of the parameter f_{NRB,y} Training procedures for enumerator for determination of the parameter f_{NRB,y} <p>Refer CAR 05 for further details.</p> <p>In addition the ER worksheet is not submitted to verify the application of reported parameter, thus conformance on the appropriateness of reporting of parameter consistency of the applied value, appropriateness of value with respect to applied monitoring plan, appropriateness of emission reduction calculation is pending (refer CAR 04). Please refer to Appendix-4 for details.</p> <p><i>Verifier’s action:</i> The sampling plan has been cross checked by verification team according to EB sampling guideline and applied methodology. The results of technologies are in use has been also verified by means of on-site visit and interview (sample based) and assessment of list of equipment as per the Sales Database.</p>	<p>CAR 05, CAR 04, CAR 02</p>	<p>OK</p>

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>The researcher has been interviewed, w.r.t. the design and implementation of sampling plan, the independence and competence of survey implementer was assessed.</p> <p><i>Conclusion:</i></p> <p>Pending issues are identified. Please refer CAR 05, CAR 04, CAR 02.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	<p>/MR/ /MRT/ /AMS-III.AV/ /XLS/ /SAMPLE / /ELIG/ /MONIT/ /IM/</p>	<p><i>Description:</i></p> <p>It is calculated value. Additional QA/ QC measures are not applicable.</p> <p><i>Verifier's action:</i></p> <p>Enumerators undertaking testing were also interviewed.</p> <p>Implementation of CME and CPA operator QA/ QC measures were discussed</p> <p>Pending documents for undertaking the implementation of QA/ QC measures was requested</p> <p>The sampling plan has been cross checked by verification team according to EB sampling guideline and applied methodology.</p> <p><i>Conclusion:</i></p> <p>The verification team would give final conclusion when related findings are addressed by the PP.</p>	CAR 02, CAR 04	OK

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
c) Correctness (VVS, §§ 233, 236) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i> <i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		/XLS/ /MR/ /VVS/ /SAMPLE / /ELIG/ /MONIT/ /IM/	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) Description: In absence of <ul style="list-style-type: none"> Survey report for determination of the fraction of the woody biomass saved by the project activity Applied international reports (with traceability) which are utilized for determination of the parameter $f_{NRB,y}$ Training procedures for enumerator for determination of the parameter $f_{NRB,y}$ parameter cannot be considered as OK. Verifier's action: In addition to the onsite review, pending documentation pertaining to parameter was requested, please refer above assessments. Conclusion: The verification team would give final conclusion when related findings CAR 05, CAR 04, CAR 02.	CAR 05, CAR 04, CAR 02	OK
A.1.7. η_{wb}	CPA No.: 9948-0002		Description: Efficiency of water boiling system being replaced		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>a) Measurement / Determination method (VVS, §§ 233, 236) Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</p>	<p>/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /MONIT/</p>	<p><i>Description:</i> The parameter is utilized to determine the baseline emissions. Default values from AMS III.V are utilized along with the national data limited to host country Uganda. However, the vintage-wise reporting (as per applied monitoring frequency) is not in line with the prescribed reporting format of dd/mm/yyyy to dd/mm/yyyy for parameters “η_{wb}” and the monitoring plan is also unclear if the CPA-Operator has applied the annual or biennial frequency of monitoring for the parameter “η_{wb}” (refer CAR 02). Also the requisite documents are not submitted (refer CAR 05).</p> <p><i>Verifier’s action:</i> Applied methodology and the national data was reviewed.</p> <p><i>Conclusion:</i> Pending issues are identified. Please refer CAR 05, CAR 02.</p>	CAR-02, CAR-05	OK
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243) In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs. Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</p>	<p>/MR/ /AMS-III.AV/ /CPA-DD/ /POA-DD/ /IM/</p>	<p><i>Description:</i> It is calculated value. Additional QA/ QC measures are not applicable.</p> <p><i>Verifier’s action:</i> Applied methodology and the national data was reviewed.</p> <p><i>Conclusion:</i> The verification team would give final conclusion when related findings are addressed by the PP.</p>	CAR-02, CAR-05	OK

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
c) Correctness (VVS, §§ 233, 236) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		/ MR / / AMS-III.AV / / CPA-DD / / POA-DD /	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) <i>Description:</i> Pending closure of the raised findings. <i>Verifier's action:</i> MR, applied methodology and the national data was reviewed. <i>Conclusion:</i> The verification team would give final conclusion when related findings are addressed by the PP.	CAR-02, CAR-05	OK
A.1.8. ECP_{j,y}	CPA No.: 9948-0002		Description: Quantity of electricity consumed by the project electricity consumption source j in year y		
a) Measurement / Determination method (VVS, §§ 233, 236) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</i>		/ MR / / MRT / / IM / / AMS-III.AV / / XLS / / ELIG / / MONIT /	<i>Description:</i> The parameter is utilized to determine the project emissions. The value of parameter is based on manufacturer's specification. It is also noted that there is provision for application of default value of 100 Watt for 24 hours a day and 365 days a year. Below inconsistencies are identified and CAR 02 has been raised <ul style="list-style-type: none"> The MR section E.2 states multiple source of data (survey, manufacturer's specification, direct monitoring) for parameter "ECP_{j,y}", however the exact reference is missing. Assumption of 14 watt hour capacity (compared to the assumed value of 100 Watt hour, Section D.7.1 CPA-DD) is not backed by credible substantiation. The vintage-wise reporting (as per applied monitoring frequency) is not in line with the prescribed reporting 	CAR-02, CAR-05, CAR-04	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>format of dd/mm/yyyy to dd/mm/yyyy for parameters “ECP_{J_i,y}”</p> <ul style="list-style-type: none"> The monitoring plan is also unclear if the CPA-Operator has applied the annual or biennial frequency of monitoring for the parameter “ECP_{J_i,y}” <p>ER worksheet is not submitted so CAR 04 has been raised. Requisite supporting documents are not submitted, CAR 05 has been raised.</p> <p><i>Verifier’s action:</i></p> <p>CPA-DD, PoA-DD and MR were reviewed.</p> <p><i>Conclusion:</i></p> <p>Pending issues are identified. Please refer CAR 05, CAR 04 and CAR 02.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	<p>/MR/ /AMS-III.AV/ /CPA-DD/ /POA-DD/ /IM/</p>	<p><i>Description:</i></p> <p>It is technical specification or default value. Additional QA/ QC measures are not applicable.</p> <p><i>Verifier’s action:</i></p> <p>Manufacturer’s specification and default value were reviewed..</p> <p><i>Conclusion:</i></p> <p>The verification team would give final conclusion when related findings are addressed by the PP.</p>	<p>CAR-02, CAR-05, CAR-04</p>	<p>OK</p>

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
c) Correctness (VVS, §§ 233, 236) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		/MR/ /AMS-III.AV/ /CPA-DD/ /POA-DD/	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) <i>Description:</i> Pending closure of the raised findings. <i>Verifier's action:</i> Manufacturer's specification and default value were reviewed.. <i>Conclusion:</i> The verification team would give final conclusion when related findings are addressed by the PP.	CAR-02, CAR-05	OK
A.1.9. EF_{projected_fossilfuel}	CPA No.: 9948-0002		Description: Emission factor as per AMS-I.E procedures when NRB is displaced or the emission factor of the fossil fuel substituted		
a) Measurement / Determination method (VVS, §§ 233, 236) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</i>		/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /MONIT/	<i>Description:</i> The parameter is utilized to determine the baseline emissions.. Default emission factors as defined by the applied methodology AMS III.AV and the national data base are utilized to derive the parameter. <i>Verifier's action:</i> CPA-DD, PoA-DD, applied methodology and host country household surveys were utilized. <i>Conclusion:</i> Value is correctly reported.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	<p>/MR/ /AMS-III.AV/ /CPA-DD/ /POA-DD/ /IM/</p>	<p><i>Description:</i> It is a default value. Additional QA/ QC measures are not applicable.</p> <p><i>Verifier's action:</i> Applied default value and national data base was reviewed..</p> <p><i>Conclusion:</i> The reported value is accurate</p>	OK	OK
<p>c) Correctness (VVS, §§ 233, 236)</p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /AMS-III.AV/ /CPA-DD/ /POA-DD/</p>	<p><input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> Applied value is correct.</p> <p><i>Verifier's action:</i> MR was reviewed.</p> <p><i>Conclusion:</i> No further corrections.</p>	OK	OK

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
A.1.10.	Existence of public distribution network of safe drinking water	CPA No.: 9948-0002	Description: Existence of public distribution network of safe drinking water in year y		
a) Measurement / Determination method (VVS, §§ 233, 236) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</i> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the CPA-DD and the applied methodology.</i>		/MR/ /MRT/ /IM/ /AMS-III.AV/ /XLS/ /ELIG/ /MONIT/	Description: The parameter is utilized to determine the eligibility conditions. The value is based on biennial survey records. Verifier's action: CPA-DD, PoA-DD, applied methodology and biennial survey records were reviewed. Conclusion: Value is correctly reported.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 237-243) <i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs. Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	<p>/MR/ /AMS-III.AV/ /CPA-DD/ /POA-DD/ /IM/</p>	<p><i>Description:</i> It is a survey based value. Additional QA/ QC measures are not applicable.</p> <p><i>Verifier's action:</i> Survey report was reviewed.</p> <p><i>Conclusion:</i> The biannual survey was reviewed..</p>	OK	OK
<p>c) Correctness (VVS, §§ 233, 236) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /AMS-III.AV/ /CPA-DD/ /POA-DD/</p>	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> Applied value is correct.</p> <p><i>Verifier's action:</i> MR and biannual survey was reviewed.</p> <p><i>Conclusion:</i> No further corrections.</p>	OK	OK

Appendix 6. Calibration dates and validity of installed monitoring equipment

Table A-6: Periodic Verification Checklist – Calibration details

NA as no monitoring equipment is involved.

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	29 December 2017	Revision to align with the requirements of the “CDM validation and verification standard for programme of activities” (version 01.0).
01.0	5 June 2015	Initial publication.

Decision Class: Regulatory
Document Type: Form
Business Function: Issuance
Keywords: programme of activities, verifying and certifying