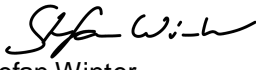




**Validation report form for renewal of CDM programme of activities period
(Version 02.0)**

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)	KTDA Small Hydro Programme of Activities (PoA6606)
Number and duration of the next period	Number: 2 Duration: 14/09/2019 -13/09/2026 (both days included)
Version number of the validation report	1.1
Completion date of the validation report	24/08/2020
Version number of PoA-DD to which this report applies	8.0
Coordinating/managing entity (CME)	KTDA Power Company (KTPC)
Host Parties	Republic of Kenya
Applied methodologies and standardized baselines	AMS-I.F: Renewable electricity generation for captive use and mini-grid - version 3.0 Standardized baseline: N/A
Mandatory sectoral scopes	1: Energy industries (renewable / non-renewable sources)
Conditional sectoral scopes, if applicable	N/A
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next programme of activities period	24,305 ¹ tCO _{2e}
Name and UNFCCC reference number of the DOE	TÜV NORD CERT GmbH; E-0022
Name, position and signature of the approver of the validation report	 Stefan Winter Final Approver

¹ Ex-ante average amount of reductions per annum of CPA1, included at the time of PoA Renewal (6606-P1-0001-CP1)

SECTION A. Executive summary

The KTDA Power Company Limited has commissioned the TÜV NORD JI/CDM Certification Program to carry out validation of the request for renewal of crediting period for the programme of activities titled:

“KTDA Small Hydro Programme of Activities”

with regard to the relevant requirements for CDM programme activities.

The programme was registered on 14/09/2012 under the UNFCCC registration No. PoA6606. In line with §282 of the CDM project cycle procedure for Programmes of Activities-v2.0, a registered non-A/R PoA shall be renewed every seven years for a maximum of three times from the date of registration, that is, a maximum of 28 years in total. Therefore, the start of the next PoA period shall be 14/09/2019.

The objective of this PoA RCP validation is the review by an independent entity whether the programme of activities is still compliant with the applicable provisions of:

- the CDM project standard for programmes of Activities_v2.0^{/PS/},
- the CDM project cycle procedure for Programmes of Activities_v2.0^{/PCP/}
- the latest version of the CDM-PoA-DD-FORM_v9.0^{/PoA-DD-T/}
- UNFCCC Methodology AMS-I.F, v3.0^{/AMS-I.F/},
- the methodological tool07 “Tool to calculate the emission factor for an electricity system”, v7.0^{/TL/},
- the methodological tool11 “Assessment of the validity of the original / current baseline and update of the baseline at the renewal of the crediting period”, v3.0.1^{/TL/}.

As per the requirements of the CDM Validation and Verification Standard for programmes of activities^{/VVS/} the validation is based on

- the registered and latest updated version of the PoA-DD^{/PoADD/},
- further supporting documents made available to the validator as well as
- information collected through performing interviews and during additional research.

Furthermore publicly available information, such as the host country legislation, was considered as far as available and required.

The programme will contribute to reducing GHG emissions by implementing of a number of small-scale component project activities (CPA) which will displace grid electricity consumption at the user end with any excess supplied to the national grid. Tea factory owners have taken the initiative to jointly implement run-of-the-river small hydro project activities in order to effectively utilize the hydro power generation potential in the existing water bodies.

Details of the project location are given in table A-1 below:

Table A-1: Project Location

No.	Project Location
Host Country	Republic of Kenya
Region:	All regions of the host country

SECTION B. Validation team, technical reviewer and approver**B.1. Validation team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader	EL	Lubanga	David	-	X	-	X	X

B.2. Technical reviewer and approver of the validation report for renewal of PoA period

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	Stöhr	Christina	TN CERT GmbH
2.	Approver	IR	Winter	Stefan	TN CERT GmbH

SECTION C. Means of validation**C.1. Desk/document review**

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

- the last revision of the PoA-DD including the monitoring plan^{/PoADD/},
- the last revision of the validation report^{VAL/},
- the latest version of the CDM-PoA-DD-FORM_v9.0
- The latest version of applied methodological tools
- the latest MoC

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

C.2. On-site inspection

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	Activity performed on-site	Site location	Date	Team member
1.	-			

As per chapter 11.0 of the PoA VVS no onsite inspection is mandated.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Belenky	Lucas	-	12/03/2020	Editorial and Procedural issues	David Lubanga

Any issues have been exchanged via Email and skype call to clarify a number of issues.

C.4. Sampling approach

No sampling has been conducted by the PP to collect data for the preparation of documents for the renewal of crediting period.

DOE has also not conducted any sampling in assessing the documents provided and during course of validating the programme of activities renewal of crediting period.

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

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Programme of activities	0	0	0
Compliance with PoA-DD form	0	0	0
Programme of activities period	0	0	0
Coordinating/managing entity and the project participants	0	0	0
Post-registration changes	0	0	0
Generic component project activities	0	0	0
Application and selection of methodologies and standardized baselines	0	0	0
Validity of original baseline or its update	0	2	0
Estimated emission reductions or net anthropogenic removals	0	0	0
Validity of monitoring plan	0	0	0
Eligibility criteria for inclusion of CPAs	0	0	0
Others (MoC)	1	0	0
Total	1	2	0

SECTION D. Validation findings

D.1. Programme of activities

D.1.1. Compliance with PoA-DD form

Means of validation	<p>By means of the UNFCCC website it has been checked whether the latest applicable PoA-DD template CDM-PoA-DD-FORM has been used.</p> <p>Further it has been checked whether the latest instructions for filling out the PoA-DD 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"> • /PoADD/ • /PoADD-T/ • /unfccc/ 	
Findings	<input checked="" type="checkbox"/>	The latest reporting template CDM-PoA-DD-FORM as listed on the UNFCCC website has been used for the PoADD.
	<input checked="" type="checkbox"/>	The latest instructions for filling out the PoA-DD have been followed. No adverse finding has been identified in the course of this validation.
	<input type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
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>The CME used the same version of the PoA-DD form for the updated PoA-DD as the version of the form of the recently revised PoA-DD.</p> <p>The validation team can confirm that the information in the latest version of the PoA-DD is materially the same as that in the latest approved PoA-DD.</p>	

D.1.2. Programme of activities period

Means of validation	<p>The PoA was registered on 14/09/2012 and the related previous first Programme of activities period is from 14/09/2012 to 13/09/2019.</p> <p>The 2nd programme of activities period starts on 14/09/2019 and last until 13/09/2026.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PoADD/ • /PoADD-T/ • /unfccc/
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Findings	-
Conclusion	In accordance with §283 of the CDM project cycle procedure for Programmes of Activities v2.0, the 2 nd crediting period starts immediately after the expiration date of the current, previous period. It is further confirmed that the start date (14/09/2019) and the length of the programme period (7 years) are in compliance with the project standard.

D.1.3. Coordinating/managing entity and the project participants

Means of validation	The validation team has checked the revised PoA-DD ^{/PoADD/} and the UNFCCC website ^{/unfccc/} and the latest version of the Modalities of Communication ^{/MoC/} to check whether the listed project participants have duly been authorized and if communication requirements are met. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PoADD/ • /unfccc/ • /MoC/ 		
Findings	<input checked="" type="checkbox"/>	The names of the CME and the project participants as listed in the revised PoA-DD (sections A.4 and A.5. and appendix 1) are consistent with those listed on the dedicated UNFCCC project website as well as in the last version of the modalities of communication ^{/MoC/} .	
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CL 01	
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 PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.	
		The name of the coordinating/managing entity and the project participant included in the updated PoA-DD is consistent with the name of the coordinating/managing entity and the project participant in the latest version of the MoC statement. The name of the primary authorized signatory was changed and therefore, section 4 of Annex 2 has been revised accordingly in a new MoC statement provided for the renewal of the PoA period	

D.1.4. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Corrections	N	-	-
Inclusion of monitoring plan	N	-	-
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	N	-	-
Changes to the programme design	N	-	-
Addition of CPA inclusion template	N	-	-
Changes specific to afforestation and reforestation activities	N	-	-
Change of coordinating/managing entity	N	-	-

D.2. Generic component project activities

D.2.1. Application and selection of methodologies and standardized baselines

Means of validation	By means of comparison of the PoA-DD with <ul style="list-style-type: none"> (i) the applied CDM methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline
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	the verification team has checked whether the updated PoA-DD is in compliance with the requirements of the applied methodologies/tools/SB. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PoADD/ • /AMS-I.F/ • /TL/ • /unfccc/ 								
Findings	<input checked="" type="checkbox"/>	The updated PoA-DD is completely in accordance with the approved methodologies applicable for the CDM programme of activities.							
	<input checked="" type="checkbox"/>	The breakdown of PDD accordance of the referenced tools is as follows:							
		1.	<table border="1"> <tr> <td>Title (of the tool)</td><td>Tool to calculate the emission factor for an electricity system</td></tr> <tr> <td>Version</td><td>7.0</td></tr> <tr> <td>MP compliance</td><td> <input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP) </td></tr> </table>	Title (of the tool)	Tool to calculate the emission factor for an electricity system	Version	7.0	MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)
		Title (of the tool)	Tool to calculate the emission factor for an electricity system						
		Version	7.0						
		MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)						
		2.	<table border="1"> <tr> <td>Title (of the tool)</td><td>Assessment of the validity of the original/current baseline and update the baseline at the renewal of the crediting period</td></tr> <tr> <td>Version</td><td>3.0.1</td></tr> <tr> <td>MP compliance</td><td> <input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A </td></tr> </table>	Title (of the tool)	Assessment of the validity of the original/current baseline and update the baseline at the renewal of the crediting period	Version	3.0.1	MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A
		Title (of the tool)	Assessment of the validity of the original/current baseline and update the baseline at the renewal of the crediting period						
		Version	3.0.1						
		MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A						
3.	<table border="1"> <tr> <td>Title (of the tool)</td><td>Assessment of debundling for small-scale project activities</td></tr> <tr> <td>Version</td><td>04.0</td></tr> <tr> <td>MP compliance</td><td> <input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A </td></tr> </table>	Title (of the tool)	Assessment of debundling for small-scale project activities	Version	04.0	MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A		
Title (of the tool)	Assessment of debundling for small-scale project activities								
Version	04.0								
MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A								
The breakdown of PDD accordance of the applicable SB is as follows:									
1.	<table border="1"> <tr> <td>Title (of the SB)</td><td>Not Applicable</td></tr> <tr> <td>Version</td><td></td></tr> <tr> <td>MP compliance</td><td></td></tr> </table>	Title (of the SB)	Not Applicable	Version		MP compliance			
Title (of the SB)	Not Applicable								
Version									
MP compliance									
<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:								
	CAR 01								
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 PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.							
	By checking the UNFCCC website it is confirmed that the selection of the applied methodologies and methodological tools has been done and applied correctly in line with the applicable requirements of PoA renewal. All applicability conditions of the latest methodology are still met. Thus the methodologies are deemed fully applicable for the new crediting period and no request for deviation with regards to the applicability of the methodology is required. After corrections, it be concluded the compliance are met.								

D.2.2. Validity of original baseline or its update

Means of validation	In line with PoA-VVS §382 for the assessment of the validity of the original baseline or its updates the validation team covered the following: (a) The impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to
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	<p>renewal of PoA period of a registered CDM PoA at the time of requesting the renewal of the PoA period;</p> <p>(b) The correctness of the application of the approved methodologies and, where applicable, the approved standardized baselines and the other methodological regulatory documents for the determination of the continued validity of the baseline or its update, and the estimation of GHG emission reductions or net anthropogenic GHG removals for the applicable PoA period.</p> <p>Accordingly the DOE has assessed any new or relevant national or sectoral policies and circumstances to confirm that the baseline is still valid. The same is elaborated under step 3 below.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PoA-DD/ • /TL/ • /EB22-3/
CAR Findings	<p><u>Step 1: Applicability of a Standardized Baseline:</u></p> <p>No standardized baseline is being applied to the programme of activities.</p>
	<p><u>Step 2: Baseline Scenario:</u></p> <p>As per AMS-I.F, the project activity will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit i.e. in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:</p> <p>(a) A national or a regional grid (grid hereafter);</p> <p>(b) Fossil fuel fired captive power plant;¹</p> <p>(c) A carbon intensive mini-grid.</p> <p>The CPAs under the PoA would displace grid electricity for captive use and surplus export to the national grid as per option 1. Therefore, there is no change in the original baseline as defined in the latest approved PoA-DD.</p> <p>Baseline emissions are the product of the amount of electricity displaced with electricity produced by the renewable generating unit and an emission factor. In the case of this PoA, CPAs will use the emission factor of the national grid and is calculated as per the procedures in AMS-I.D.</p> <p>As per the PoA standard this scenario is not subject to re-assessment and is thus deemed to be applicable for the next crediting period.</p> <p>However the baseline itself i.e. the calculation of baseline emissions has been checked regarding the continued validity of underlying assumptions and parameter values. The assessment steps are described in the following subsections.</p>
	<p><u>Step 3: Assessment of compliance of the current baseline with relevant mandatory national and/or sectoral policies:</u></p> <p>The baseline of the registered PoA-DD has been assessed to be compliant with the national legislation and policies applicable for the project activity at the time of validation. During the first crediting period the PP has frequently reviewed the legal requirements and policies relevant for the baseline of the project. On the basis of this the PP has arrived at the conclusion that the baseline is still in line with all applicable legislations and policies.</p> <p>The validation team has independently reviewed the host country legislation as well as current policies, such as</p> <ul style="list-style-type: none"> • The Energy Act, 2006 • Sessional Paper No. 4 on Energy (2004)

	<ul style="list-style-type: none"> National Energy Policy (2018) Kenya Vision 2030 (2018-2030) <p>On the basis of this analysis the validation team confirms that the baseline is still in compliance with the currently applicable national legislation and other national and/or sectoral policies. No changes have occurred based on the host country laws which would affect the PoA. The requirements from national laws and regulations are the same as during initial request for registration. From the analysis of laws and policies, the validation team concludes that there are no national and/or sectoral policies or regulations that give comparative advantages to less emissions-intensive technologies over more emissions-intensive technologies.</p> <p>Therefore the baseline did not need to be adjusted due to changes in this respect.</p> <p><u>Step 4: Impact of circumstances:</u></p> <p>The baseline was defined by the methodology and was not based on market conditions or parameters. Therefore, this is not applicable</p> <p><u>Step 5: Likelihood of investments</u></p> <p>This sub-step should only be applied if the baseline scenario identified at the validation of the project activity was the continuation of use of the current equipment(s) without any investment, so it's not applicable for the project.</p> <p><u>Step 6: Validity of ex-ante determined parameters:</u></p> <p>No data or parameters are determined ex-ante. The grid emission factor ($EF_{CO_2,y}$) is determined ex-post annually at CPA level.</p> <p><input checked="" type="checkbox"/> The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>CAR 02</p>
Conclusion	<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.</p> <p><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.</p> <p>The original baseline scenario of the project as per the registered PoA-DD is still valid for the 2nd PoA period. The methodology version remains the same (VVS 382 b)</p> <p>No data or parameters are determined ex-ante. The grid emission factor ($EF_{CO_2,y}$) is determined ex-post annually for every CPA.</p> <p>The PoA prescribes further analysis of baseline validity at CPA-level</p>

D.2.3. Estimated emission reductions or net anthropogenic removals

Means of validation	<p>For validation of the estimated GHG emission reductions the client has provided the validation team with the following documentation:</p> <ul style="list-style-type: none"> Updated PoA-DD^{PoADD/}. <p>Further, the validation team has downloaded from the UNFCCC website the applicable version of the CDM methodologies and all referenced methodological tools ^{/unfccc/}.</p> <p>It has been checked whether the results have been correctly transferred to the updated PoA-DD for determination of ex-ante ER. The validation team has further checked the updated PoA-DD against the latest version of the applicable methodologies incl. the referenced methodological tools for consistency. Special focus was laid on the changes against the previous crediting period.</p> <p>The ER calculation process has been duly checked. Further, it has been checked whether the formulae have been correctly transferred to the updated PoA-DD and generic CPA-DD for determination of ex-ante ER.</p> <p>In the updated PoA-DD, the version of methodology AMS-I.F. is still valid. Via checking the latest version, it is confirmed that no change to the ER calculation is necessary from the latest registered PoA-DD.</p> <p>Thus in the updated PoA-DD, there is no change to the formulae of estimated GHG emission reductions which will be used by the specific CPAs for ER calculation.</p>
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		<p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PoA-DD/ • /AMS-I.F/ • /TL/ • /unfccc/
Findings	<input checked="" type="checkbox"/>	The equations to calculate the ERs are as per the applied methodologies. The corresponding calculation tables in the PDD have been checked and no mistakes have been identified.
	<input type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
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.
	As this is the renewal of programme of activities period no ex-ante ER estimation is calculated but the generic equations in line with the methodology to determine the ex-ante ER result at CPA are sufficiently provided.	

D.2.4. Validity of monitoring plan

Means of validation	<p>The validation team has checked the monitoring plan of the updated PoA-DD against the required changes due to the update of the baseline and other methodological changes.</p> <p>The monitoring plan in the generic CPA-DD had already been updated to comply with the latest applicable version of the monitoring methodology (AMS-I.F version 3.0). The PRC was approved in 07/11/2019 and no changes are deemed necessary.</p> <p>In detail all parameters, ex-ante values and applicable formulae had been checked to determine the required changes for the next PoA period.</p> <p>Assessment of fixed parameters</p> <p>No fixed parameters have been proposed for the generic CPA-DD.</p> <p>Assessment of monitoring parameters</p> <p>The parameters proposed for monitoring during the crediting period are as below: -</p> <p>1. Parameter EG_{BL,y}: Quantity of net electricity displaced in year in MWh</p> <p>Data Source</p> <p>The gross and net power generation is measured continuously and aggregated monthly using energy meters and cross-checked with invoices for electricity sold. The net electricity displaced is the gross energy generation by the project activity power plant less the auxiliary/station electricity consumption.</p> <p>Measurement Frequency</p> <p>Continuous</p> <p>QA/QC Procedures</p> <p>Each project entity is responsible for data accuracy and quality. Meters will meet the standards of the grid operator. Periodic calibration and maintenance of energy meters will be conducted as prescribed by the local laws and standards. The data is cross-checked using monthly electricity invoices of sales.</p> <p>Procedures for corrections and addressing non-conformities are adequately outlined in the PoA-DD.</p>
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2. Parameter **$EF_{CO_2,y}$** : CO₂ emission factor for the grid/minigrid/captive electricity generation in year y in tCO₂/MWh

The parameter is estimated by each CPA using the tool to calculate the emission factor of an electricity system. The calculation steps for BM, OM, and CM are also included in the PoA-DD. The grid emission factor is calculated since the baseline involves the consumption of grid electricity and any excess power will be exported to the national grid. Only grid electricity is displaced.

Data Source

Power generation data (hourly dispatch) from power generation and/or distribution companies.

Measurement Frequency

Calculated annually

QA/QC Procedures

The value is calculated using annual generation data sourced from a public utility applying the steps outlined in I.6.1 of the PoA-DD and the tool to calculate the emission factor of an electricity system. In this case, the national grid.

Assessment of monitoring system

The DOE assessed the monitoring plan against the applied methodology and requirements of the CDM project standard for programmes of Activities v2.0.

The monitoring system is sufficient to ensure the emission reductions can be calculated ex-post with accuracy and without uncertainties or material misstatements.

Operational and Management Structure

The CME has developed a framework for the implementation of the CPAs. The CME remains in charge of enrolling the CPAs, coordinating the CPAs, and receiving monitoring data for emission reduction calculations.

The overall monitoring responsibilities are vested on project entities (project owners). These include establishment of teams and assigning of roles and responsibilities for monitoring and maintenance of generation equipment, and capture of data required for calculating emission reductions.

A CDM team will be established and will work with the site staff and managers to ensure compliance with all requirements regarding monitoring, compiling, reporting and archiving data. An organizational chart has been proposed and included in section I.73 of the PoA-DD.

The data is shared regularly with the CME by the site managers.

Responsibilities and Institutional Arrangements for Data Collection and Archiving

Each power plant within a CPA will have a CDM unit, responsible for recording data electronically and in logbooks for the purpose of GHG emission reduction calculations. The site manager shall be responsible for sending the data to the CME on a regular basis.

The data is archived electronically and stored for 2 years after the end of the crediting period by the CME.

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

- /PoA-DD/
- /AMS-I.F/
- /TL/

		<ul style="list-style-type: none"> • /unfccc/
Findings	<input checked="" type="checkbox"/>	The monitoring plan in the PoA-DD complies with the latest applicable version of the monitoring methodology (AMS-I.F v3.0). The validation team has duly assessed all the required changes due to the upgraded methodological requirements and the re-assessment of the baseline
	<input type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
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>The validation team has assessed the monitoring plan for the generic CPA against the requirements of the applied methodology and the PoA Standard. It can be concluded as follows:</p> <ol style="list-style-type: none"> 1. The description of the monitoring plan is in compliance with the provisions of the applied methodology; 2. The monitoring arrangements described in the monitoring plan are feasible within the project design; 3. The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that GHG emission reductions achieved by CPAs can be reported ex post and verified; 4. The structure and organisation indicates that the coordinating/managing entity's has the ability to implement the monitoring plan. 5. Based on DOE's local and sectoral knowledge, the data collecting procedures described in the monitoring plan fully meet the requirements of the CDM methodology.

D.2.5. Eligibility criteria for inclusion of CPAs

Means of validation		<p>The DOE has assessed whether the coordinating/managing entity, in accordance with the relevant requirements in the "CDM project standard for programmes of activities":</p> <p>Updated the eligibility criteria for inclusion of CPAs in the registered CDM PoA.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PoA-DD/ • /AMS-I.F/ • /TL/ • /unfccc/
Findings	<input checked="" type="checkbox"/>	DOE can confirm based on its assessment and document check that the eligibility criteria for inclusion of CPAs in the updated CDM PoA is not changed comparing with the latest approved PoA-DD according to the relevant requirements in the "CDM project standard for programmes of activities" considering the use of latest version of methodology, methodological tools and/or applied standardized baseline, original and updated baseline, current national legislation and/or sectoral policies and circumstances, estimation of GHG emission reductions and validity of the monitoring plan.
	<input type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
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 CME has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		The eligibility criteria for inclusion of CPAs in the PoA-DD were updated and approved in the latest approved PoA-DD version 6.0. Thus, the latest approved PoA-

	DD has complied with the latest applicable version of the methodology, and the PoA standard remain the same version. No further changes to the eligibility criteria are required at PoA renewal.
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SECTION E. Internal quality control

Before the submission of the final PoA renewal validation report a technical review of the whole validation 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 validation team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation 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 validation has been carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the submission for requesting the renewal of crediting period is conducted.

SECTION F. Validation opinion

The KTDA Power Company Limited has commissioned the TÜV NORD JI/CDM Certification Program to re-validate the programme of activities "*KTDA Small Hydro Programme of Activities*" for the purpose of renewal of the PoA period. The validation is based on the relevant UNFCCC requirements.

The review of the updated PoA design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews have provided TÜV NORD JI/CDM Certification Program with sufficient evidence to validate the fulfilment of the stated criteria applicable for PoA renewal of Crediting period.

In detail the conclusions can be summarized as follows:

- (i) The updated PoA-DD has been completed using the valid version of the PoA-DD form, following the instructions therein;
- (ii) The information transferred to the later valid version of the PoA-DD form is materially the same as that in the registered PoA-DD;
- (iii) The baseline, the estimated GHG emission reductions or net anthropogenic GHG removals, and the monitoring plan in the updated PoA-DD comply with the requirements in the "CDM project standard for programmes of activities", and the valid version of the methodology.
- (iv) The next duration of the PoA commences on the day immediately after the expiration of the current duration;
- (v) The name of the coordinating/managing entity and the project participant in the updated PoA-DD is consistent with the name of the coordinating/managing entity and the project participant in the latest version of the MoC statement;
- (vi) The eligibility criteria for inclusion of CPAs in the registered CDM PoA remain the same;
- (vii) The current baseline of the programme of activities is in line with the national and/or sectoral policies and circumstances at the time of requesting renewal of crediting period.
- (viii) The monitoring plan is transparent and in line with the applied baseline and monitoring methodology (AMS-I.F, version 03.0).

The conclusions of this report show, that the PoA, as it was described in the programme of activities documentation, is in line with all CDM criteria applicable for the renewal of the PoA.

Kigali, 24/08/2020



David Lubanga
TÜV NORD JI/CDM Certification Program
Validation Team Leader

Appendix 1. Abbreviations

Abbreviations	Full Texts
BAU	Business as usual
BM	Build Margin
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CM	Combined Margin
CME	Coordinating / Managing Entity
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
COP/MOP	Conference of Parties / Meeting of Parties
CP	Certification Program
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
DNA	Designated National Authority
EIA	Environmental Impact Assessment
ECC	Environmental Compliance Certificate
FAR	Forward Action Request
GE	General Electric
GHG	Greenhouse gas(es)
GT	Glossary of Terms
IPCC	Intergovernmental Panel on Climate Change
KTPC	KTDA Power Company Limited
KTDA	Kenya Tea Development Agency
LoA	Letter of Approval
MoC	Modalities of Communication
MP	Monitoring Plan
OM	Operating Margin
OSV	On-site visit
PA	Project Activity
PoA	Programme of Activities
PoA-DD	CDM Programme of Activities Design Document
PP	Project Participant(s)
QA/QC	Quality assurance/Quality control
RPC	Regional Power Companies
RCP	Renewal of Crediting Period
UNFCCC	United Nations Framework Convention on Climate Change

Appendix 2. Competence of team members and technical reviewers

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2021-10-20
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2021-10-20

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Manure

251 - Rev. 7, Date: 2018-10-19

251_001-VA000-F20_2019-10-19_rev7.doc

001-VA000-F20 rev3 / 2012-10-25

SCHEME	STATUS	VALID UNTIL
CDM	Assessor (Validation, Verification) Technical Reviewer	2023-05-05
VCS / ISO 14064-2	Assessor/ Technical Reviewer	2023-05-05

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
13.1	Solid waste and wastewater

200 - Rev. 6 Date: 2020-04-08

200_001-VA000-F20_2020-04-08_rev6

001-VA000-F20 rev3 / 2012-10-25

Appendix 3. Documents reviewed or referenced

No.	Reference	Author	Title	References to the document	Provider
1.	/PoADD-T/	UNFCCC	PoA design document form for CDM component project activities (CDM-PoA-DD-FORM) –version 9.0	https://cdm.unfccc.int/Reference/PDs_Forms/index.html	Other
2.	/CPM/	DOE	TUV NORD JI / CDM CP Manual (incl. CP procedures and forms)	-	Other
3.	/GOT/	UNFCCC	Glossary “CDM terms” – version 10.0	https://cdm.unfccc.int/filestorage/e/xt/extfile-20150226124447549-glos_CDM.pdf/glos_CDM.pdf?t=UmZ8bnFjODI3fDCW9A3vJwR03kQQh4sbLiYu	Other
4.	/IPCC/	IPCC	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book	www.ipcc-nggip.iges.or.jp	Other
5.	/KP/	UNFCCC	Kyoto Protocol (1997)	http://unfccc.int/kyoto_protocol/items/2830.php	Other
6.	/MA/	UNFCCC	Decision 3/CMP.1 (Marrakesh – Accords)	http://cdm.unfccc.int/Reference/COPMOP/index.html	Other
7.	/AMS-I.F/	UNFCCC	AMS-I.F, ver. 3.0: Renewable electricity generation for captive use and mini-grid	https://cdm.unfccc.int/methodologies/DB/9KJWQ1G0WEG6LKHX21MLPS8BQR7242	Other
8.	/TL/	UNFCCC	Methodological Tools: - Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, v3.0.1 - Tool to calculate the emission factor for an electricity system, v7.0 - Assessment of debundling for small-scale project activities, 4.0	http://cdm.unfccc.int/Reference/tools/index.html	Other
9.	/PS/	UNFCCC	CDM project standard for programmes of activities_v2.0	http://cdm.unfccc.int/Reference/Standards/index.html	Other
10.	/VVS/	UNFCCC	CDM validation and verification standard for programmes of activities_v2.0	http://cdm.unfccc.int/Reference/Standards/index.html	Other
11.	/LoA/	DNA	Letter of Approval for PoA	-	Other
12.	/PoADD/	PP	Programme of Activities: “KTDA Small Hydro Programme of Activities” version 6.0 – 21/09/2019 version 7.0 – 28/04/2020 version 8.0 – 20/08/2020	-	PP UNFCCC

No.	Reference	Author	Title	References to the document	Provider
13.	/CPADD/	PP	Component Project Activity: "Gura small hydro power project" version 3 – 23/04/2012	-	PP UNFCCC
14.	/CPM/	TUV NORD	TUV NORD JI / CDM Certification Program Manual (incl. procedures and forms)	-	TUV NORD
15.	/PCP/	UNFCCC	CDM project cycle procedure for project activities, v2.0	https://cdm.unfccc.int/Reference/Standards/index.html	UNFCCC
16.	/VAL/	TUV NORD	Validation Report for CDM project "KTDA Small Hydro Programme of Activities" v4.0, dated 11/09/2012	https://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1294107945.98/view	Other
17.	/PRC/	TUV NORD	PRC Assessment Report for CDM project "KTDA Small Hydro Programme of Activities" v2.0, dated 26/09/2019	-	Other
18.	/EB22-3/	UNFCCC	Clarifications on the Consideration of National and/or Sectoral Policies and Circumstances in Baseline Scenarios_v2.0	-	Other
19.	/MoC/	CME	Modalities of Communications (revised)		Other
20.	/dna/	NEMA	National Environment Management Authority (NEMA)	http://www.nema.go.ke/	Other
21.	/re/	EPRA	Renewable Energy in Kenya	https://www.renewableenergy.go.ke/	Other
22.	/ipcc/	/IPCC/	IPCC publications	www.ipcc-nggip.iges.or.jp	Other
23.	/unfccc/	UNFCCC	UNFCCC	http://cdm.unfccc.int	Other

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

Table 2. CL from this validation

CL ID	01	Section no.	Title Page & A.5	Date: 01/05/2020
Description of CL				
PoA-DD version 7.0, Title Page & section A.5				
The CME shall confirm that the latest MoC publicly available on the PoA webpage is the latest and no changes have occurred in line with para. 294 of the CDM project standard for programmes of Activities_v2.0				
Project participant response				Date: 10/05/2020
A new MoC Form has been submitted with the updated information				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PoA-DD	Section(s): Title Page & A.5		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: 09/06/2020
PoA-DD version 7.0, Title Page & section A.5				
The validation team has received a revised Modalities of Communication statement dated 08/06/2020 directly from the CME.				
<ul style="list-style-type: none"> - The MoC statement has been completed using the latest and valid form of the CDM-MOC-FORM version 3.0 - KTDA Power Company remains the CME and the sole focal point - The MOC indicates that the authorized signatory has changed to Japheth Sayi and bears his contact details and signatures - Section 4 of Annex 2 has been duly completed, indicating all scope of authority is held by the new signatory, just as in the previous signatory - The validation team has verified the corporate and personal identity of the official who submitted the MoC statement. The DOE does not doubt the authenticity of the MoC statement as it has been received directly by an authorized party of the CME, who has a contractual relationship with the DOE. 				
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 2. CAR from this validation

CAR ID	01	Section no.	I.1	Date: 01/05/2020
Description of CAR				
PoA-DD version 7.0, Section I.1				
The version of the methodological TOOL11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period shall be corrected				
Project participant response				Date: 10/05/2020
Version number of Tool11 has been corrected.				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PoA-DD	Section(s): I.1		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: 16/05/2020
PoA-DD version 7.0, Section I.1				
The PoA-DD has been corrected to the latest version 3.0.1, and all steps have been updated in section I.5 of the PoA-DD.				
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.	I.5	Date: 01/05/2020
Description of CAR				
PoA-DD version 7.0, section I.5				
The CME shall describe how to demonstrate the validity of the original baseline or how to update it for each of the corresponding CPAs, in line with para 287 of the CDM project standard for programmes of Activities_v2.0 by applying the methodological tool11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period				
Project participant response				Date: 15/05/2020
Section I.5 has been updated to reflect the requirements of paragraph 287 of the PoA standard for renewal of the crediting period.				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PoA-DD	Section(s): I.5	New version No.: 7.0	
<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: 16/05/2020
PoA-DD version 7.0, section I.5				
The PoA-DD has adequately prescribed how to update the baseline for each CPA in line with the baseline definition of the applied methodology. The baseline is defined by the methodology and does not need to be established taking into account relevant national and/or sectoral policies and circumstances. However, using Tool11, the CPAs will assess for any existing E- policies at the time of requesting renewal, that have been implemented after adoption of the Kyoto Protocol and will update any baseline parameters accordingly				
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. FAR from this validation

FAR ID	-	Section no.		Date: DD/MM/YYYY
Description of FAR				
N/A				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
<input type="checkbox"/>	Changes in the PoA-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: DD/MM/YYYY
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> To be checked at verification		

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	31 May 2019	Revision to: <ul style="list-style-type: none">• Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN) and version 02.0 of the “CDM project cycle procedure for programmes of activities” (CDM-EB93-A09-PROC);• Make editorial improvements.
01.0	29 December 2017	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Renewal of crediting period Keywords: crediting period, programme of activities, validation report		