

VALIDATION REPORT

Regent Climate Connect Knowledge Solution Private Ltd

Title of PoA:


**“CarbonSoft Open Source PoA, LED Lighting Distribution:
Emerging Markets”**

Report No CCL0097/CSLLDEM/28112011

Revision No 02

VALIDATION REPORT

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PoA Title: CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets		Country: India		Estimated CERs (tCO ₂ e of the first CPA): 3,968 annual average	
GHG reducing measure/technology of the CPAs of the PoA:		The GHG emission reduction is attributable to the replacement of fossil fuel based lighting by renewable energy charged LED lamps. The baseline in the PoA involves usage of kerosene-based (fossil fuel) lamps for lighting purposes.			
Client/CME: Regent Climate Connect Knowledge Solution Private Ltd		Client contact: Nitin Tanwar 625, 7th Floor, Westend Mall Janakpuri West New Delhi India e-mail: nitin@climate-connect.co.uk			
Report No.: CCL0097/CSLLDEM/28112011		Revision: 02		Date of this report: 20/12/2012	
Technical Reviewer: Vikash Kumar Singh			Date of approval: 21/12/2012		
Approved by (Final Report): Priyesh Ramlall 			Date of approval: 23/12/2012		
GPS coordinates of the PoA(Geographical boundary):		The verified range of GPS coordinates of India /B06-6/ are: Latitude: 8° 4' N to 37° 6' N Longitude: 68° 7'E to 97° 25' E			
Report Distribution: <input type="checkbox"/> Unrestricted Distribution <input type="checkbox"/> Limited Distribution <input checked="" type="checkbox"/> No Distribution (without permission from the Client or responsible organisational unit)					
Organisational unit: Carbon Check (Pty) Ltd					
Methodology					
Number: AMS-III.AR	Version: 03	Title: Substituting fossil fuel based lighting with LED/CFL lighting systems	Scale: Small Scale	SS(s): 1 TA: 1.2	
Carbon Check Pty Ltd., (CCL) is commissioned by "Regent Climate Connect Knowledge Solution Private Ltd" (the CME) to perform the validation of the Program of activities "CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets", with regard to the relevant requirements for CDM programme of activities.					
Summary of the PoA Validation and Opinion:					
<input checked="" type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have provided CCL with sufficient evidence for the determination of the PoA's fulfillment of all stated criteria. In our opinion, the PoA meets all relevant UNFCCC requirements for the CDM. Therefore, CCL recommends the PoA for registration by the CDM Executive Board.					
<input type="checkbox"/> The reviews of the project design documentation and the subsequent follow-up interviews have not provided CCL with sufficient evidence for the determination of the PoA's fulfillment of all stated criteria. Therefore, CCL will not recommend the PoA for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board of this decision.					

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Validation Team		Role				
Full Name	Appointed for Sectoral scopes (Technical Areas)	Team Leader	Team Member (Auditor)	Local Expert	Technical Expert	Technical Reviewer
Ravi Shankar	1.2, 2.1, 2.2, 3.1, 13.1	X		X	X	
Amit Anand	1.2		X	X	X	
Anubhav Dimri	1.2		X	X	X	
Vikash Kumar Singh	1.2, 3.1, 13.1					X

Validation Phase	Validation Status
<input checked="" type="checkbox"/> Desk Review	<input type="checkbox"/> Corrective Actions / Clarifications requested
<input checked="" type="checkbox"/> Follow up interviews	<input checked="" type="checkbox"/> Full approval and submission for registration
<input checked="" type="checkbox"/> Resolution of outstanding issues	<input type="checkbox"/> Rejected

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Executive Summary – Validation Opinion

The validation team of Carbon Check (Pty) Ltd., performed the validation of the PoA titled “CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets” in India with regard to the relevant requirements for CDM activities.

Standard auditing techniques have been used for the validation of the PoA. An analysis, as provided by the applied methodology, demonstrates that the proposed PoA is not a likely baseline scenario. Emission reductions attributable to the PoA (eligible CPAs of the PoA) are additional to any that would occur in the absence of the proposed eligible CPAs. Given that the PoA is implemented as designed, the CPAs are likely to achieve the emission reductions.

The validation is based on the information made available to Carbon Check (Pty) Ltd., as well as the engagement conditions detailed in this report. The validation has been performed following the VVM requirements.

The validation was executed in the following steps so far:

- Receipt of PoA-DD/01/ (without version number and date) g-CPA-DD/02/ (generic) and real case CPA-DD/05/ (without version number and dated 20/12/2011) for global stakeholder comments.
- Global stakeholder comment process (23/12/2011 – 21/01/2012)
- On-site visit with stakeholder interviews (27/11/2011)
- Issue of checklist with corrective action requests (CARs) and clarification requests (CLs) and the draft validation report and protocol
- Desk review of revised DDs applying AMS-III.AR (version 3)/B02/
- Review of responses for CARs/CLs
- Issue of the final validation report and protocol

During the course of validation a total of 25 Corrective Action Requests (CARs) and 14 Clarification Requests (CLs) were identified on webhosted PoA-DD/01/. Upon evaluation of responses provided by the Project Participant (CME) all the identified issues were closed successfully.

The single purpose of this report is its use during the registration process as part of the CDM project cycle. In the opinion of Carbon Check (Pty) Ltd., the PoA meets all relevant UNFCCC requirements for the CDM if the underlying assumptions do not change. Carbon Check (Pty) Ltd. thus recommends the PoA to be registered with the UNFCCC.

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Abbreviations

BE	Baseline Emissions
CAR	Corrective Action Request
CC	Cross Check
CCL	Carbon Check (Pty) Ltd
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CME	Coordinating/managing entity
CPA	Component project activity
CPA-DD	Component project Activity design document
DBT	Daily Burn Time
DR	Document Review
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
I	Interview or any follow up action
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PE	Project Emission
PoA	Programme of Activities
PoA-DD	Programme of Activities design document
PP(s)	Project Participant(s)
Ref.	Document Reference
SD	Sustainable Development
SRT	Solar Run Time
SS(s)	Sectoral Scope(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 INTRODUCTION

Regent Climate Connect Knowledge Solution Private Ltd (hereafter referred as “CME”) has been commissioned the DOE Carbon Check (Pty) Ltd/11-2/ to perform validation of the proposed CDM Programme of Activities (PoA) " CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets" in India (hereafter called “the PoA”). This report summarizes the findings of the validation of the PoA identified in the PoA Design Document (PoA-DD); the CDM Programme Activity Design Document (CPA-DD) template with generic information relevant to all CDM Program Activities (CPAs) to be included in the PoA; and the associated real case CPA-DD. The validation was performed on the basis of UNFCCC criteria for the PoAs under the CDM, as well as criteria given to provide for consistent programme operations, monitoring and reporting. The term “UNFCCC criteria” refers to Article 12 of the Kyoto Protocol, simplified modalities and procedures for small-scale project activities, the procedures for registration of a programme of activities and the subsequent decisions by the COP/MOP and CDM Executive Board. In addition to these criteria, host country criteria are also taken into account.

1.1 Objective

The purpose of a validation is to have an independent third party assess the PoA-DD, CPA-DD template and the associated real case CPA-DD (also known as specific CPA-DD). In particular, the eligibility criteria for inclusion and demonstration of additionality of CPAs, the programme’s baseline determination, monitoring plan, and the programme’s compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the programme design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM PoAs and is seen as necessary to provide assurance to stakeholders of the quality of the programme and its intended generation of certified emission reductions (CERs).

1.2 Scope

The validation scope is defined as an independent and objective review of the PoA-DD, CPA-DD template and the real case CPA-DD. The PoA-DD, CPA-DD template and the real case CPA-DD were reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the simplified modalities and procedures for small-scale project activities, the procedures for registration of a programme of activities as a single CDM project activity and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology AMS – III.AR (Version 3)/B02/.

The validation team has, based on the requirements contained in the Validation and Verification Manual and the procedures for registration of a programme of activities as a single CDM project activity employed a rules-based approach, focusing on the identification of significant risks for programme implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the PoA Managing Entity, CPA Implementer(s) and/or project participant(s) (PP). However, stated requests for clarifications, corrective actions, and/or forward actions may provide input for improvement of the programme design.

2 METHODOLOGY

The validation consists of the following four phases, against §33 of CDM Validation and Verification Manual (Version 01.2)/B01/:

- I. Publication of the programme design documents (PoA-DD, CPA-DD template and completed CPA-DD) in UNFCCC for global stakeholder consultation;
- II. A desk review of the PoA-DD, CPA-DD template and the associated real case CPA-DD;
- III. On-site visit and follow-up interviews with programme stakeholders; and
- IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The following sections outline each step in more detail.

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2.1 Document Review

The following table lists the documentation that was reviewed during the validation.

Reference No.	Documents
/01/	PoA-DD (webhosted version), for “CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets”, (without version number and date)
/02/	g-CPA-DD Generic CPA (webhosted version) – Title: CarbonSoft Emerging Markets CPA [XX], [title] CPA ID: EM [XXX] Date: XX/XX/20XX
/03/	PoA-DD (final version) for “CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets”, Version 05, Date – 26/11/2012
/04/	g-CPA-DD Generic CPA (final version) Title: CarbonSoft Emerging Markets CPA [XX], [title] Version: XX Date: XX/XX/20XX
/05/	CPA-DD (webhosted version) – “CarbonSoft Emerging Markets CPA01“, (without version number and dated 20/12/2011) CPA ID: EM01
/06/	CPA-DD (final version) - “CarbonSoft Emerging Markets CPA01”, Version 05, Date – 26/11/2012
/07/	Letter of Approval from the DNA of India, dated 12/10/2012, authorizing Regent Climate Connect Knowledge Solution Private Ltd, to participate as project participant and coordinating/managing entity to participate in the CDM project.
/08/	Regent Climate Connect Knowledge Solution Private Ltd: No ODA and voluntary action Declaration by CME dated 27/04/2012
/09/	Regent Climate Connect Knowledge Solution Private Ltd: CME Manual dated 27/04/2012
/10/	<ol style="list-style-type: none"> 1. Modalities of Communication dated 20/11/2102 2. Power of Attorney for the focal points dated 05/12/2012
/11/	<ol style="list-style-type: none"> 1. Carbon Check (Pty) Ltd: Contract between DOE and CME dated 28/11/2011 2. Carbon Check (Pty) Ltd: Addendum to the contract dated 05/12/2012
/12/	The Lumina Project: From Carbon to Light 09/04/2010
/13/	International Journal of Environmental Science and Development: Impact of Solar Energy in Rural Development in India, 08/2012
/14/	Utrecht University: Appropriate modern lighting systems for off-grid India: Identification of important enablers and inhibitors for a successful off-grid modern lighting project
/15/	Regent Climate Connect Knowledge Solutions Private Ltd and CarbonSoft Sustainable Resources Pte Ltd:CDM POA Coordinating / Managing Entity Services Agreement, dated 01/12/2011
/16/	CarbonSoft Sustainable Resources Pte. Ltd : Letter of voluntary withdrawal dated 01/03/2012 Eureka Forbes Ltd: Letter of voluntary withdrawal dated 01/03/2012 Standard Bank PLC: Letter of voluntary withdrawal dated 01/03/2012

Background investigation and other referred documents/websites:

/B01/	CDM Validation and Verification Manual, version 01.2, EB 55 (Annex 1)
/B02/	AMS-III.AR. Substituting fossil fuel based lighting with LED lighting systems, version 03.0, EB 68 (Annex 20)
/B03/	General Guidelines for SSC CDM methodologies, version 19.0, EB 69 (Annex 27)
/B04/	<ol style="list-style-type: none"> 3 PoA Specific guidelines / standards published by UNFCCC: <ol style="list-style-type: none"> 1. CDM programme of activities design document form (CDM-SSC-PoA-DD) Version 01, EB 33

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	<ol style="list-style-type: none"> 2. CDM programme activity design document form (CDM-SSC-CPA-DD) Version 01, EB 33 3. Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission Reductions for a programme of activities, Version 04.1, EB 55 (Annex 38) 4. Procedures for review of erroneous inclusion of a CPA, version 03, EB 61 (Annex 22) 5. Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, version 01, EB 65 (Annex 03) 6. Guidelines on demonstration and prior consideration of CDM”, version 04, EB 62 (Annex 13) 7. Standard for sampling and surveys for CDM Project Activities and PoAs, version 03.0, EB 69 (Annex 4) 8. Guidelines for sampling and surveys for CDM project activities and programme of activities, version 02.0 EB 69 (Annex 5) 9. Guidelines on assessment of de-bundling for SSC project activities, Version 03, EB 54 (Annex 13) 10. Guidelines on the demonstration of additionality of small-scale project activities, version 09.0, EB 68 (Annex 27) 11. Procedures for modalities of communication between project participants and the executive board, version 01, EB 45 Annex 59 12. Procedures for processing and reporting on validation of CDM project activities, version 03, EB 50 Annex 48.
/B05/	Glossary of CDM terms, version 06, EB 66 (Annex 6)
/B06/	<p>Websites:</p> <ol style="list-style-type: none"> 1. http://www.unfccc.int 2. http://www.cdmpipeline.org/ 3. http://www.uneprioe.org/default.aspx 4. http://www.google.com/earth/index.html 5. http://maps.google.com 6. http://india.gov.in/knownindia/profile.php 7. http://www.petroleum.nic.in/ 8. http://www.mnre.gov.in/ 9. http://www.mnre.gov.in/information/policies-2/ 10. http://mnre.gov.in/file-manager/UserFiles/strategic_plan_mnre_2011_17.pdf 11. http://www.mnre.gov.in/schemes/decentralized-systems/ 12. http://www.mnre.gov.in/solar-mission/jnnsn/introduction-2/

The changes between the PoA-DD (without version number and date)¹ published for the 30 days stakeholder commenting period /01/ and the final version submitted for registration /03/ are addressed in the table 2 and 3 of the validation protocol as a part of this report.

The main changes between the PoA-DD, version 01 /01/ published for the 30 days stakeholder commenting period and the final version /03/ submitted for registration are presented in the below table as follows:

Topic	PoA DD – GSC/01/	Final PoA DD/03/	Assessment
PoA title	“CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets”	“CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets”	No Change. No version number and the date of the document was provided in the webhosted version of PoA-DD/01/. CAR 2 was raised in this regard and has been

¹ <https://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/ISDXOTZM941SFMINYZPODCDX70SUEK/view.html>

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Parties	<ul style="list-style-type: none"> • Georgia (host) • Cyprus (host) • Paraguay (host) • Guatemala (host) • Uzbekistan (host) • Nicaragua (host) • Bolivia (host) • Mongolia (host) • Ecuador (host) • El Salvador (host) • Honduras (host) • Mexico (host) • Azerbaijan (host) • Uruguay (host) • Argentina (host) • Bangladesh (host) • Malta (host) • Costa Rica (host) • Cambodia (host) • Brazil (host) • Bhutan (host) • Chile (host) • India (host) • Thailand (host) • China (host) • Sri Lanka (host) • Peru (host) • Viet Nam (host) • Jordan (host) • Lao People's Democratic Republic (host) • Republic of Moldova (host) • Armenia (host) • Kyrgyzstan (host) • Guyana (host) • Myanmar (host) • Belize (host) • Israel (host) • Yemen (host) • The former Yugoslav Republic of Macedonia (host) • Pakistan (host) • Qatar (host) • Oman (host) • United Arab Emirates (host) • Saudi Arabia (host) • Kuwait (host) • Albania (host) • Islamic Republic of Iran (host) • Nepal (host) • Syrian Arab Republic 	<ul style="list-style-type: none"> • India (Host) 	<p>addressed.</p> <p>Host parties in the PoA-DD/03/ have been changed to include only India as the host party for the validation. CAR 1 was raised in this regard and has been addressed. Letter of Approval (LoA) has also been provided in this regard/07/.</p>
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	<p>(host)</p> <ul style="list-style-type: none"> • Bahrain (host) • Suriname (host) • Lebanon (host) • Bosnia and Herzegovina (host) • Montenegro (host) • Serbia (host) • Tajikistan (host) • Democratic People's Republic of Korea (host) • Republic of Korea (host) 		
CME/PP	<p>CME: CarbonSoft Sustainable Resources Pte. Ltd (Singapore) PP: Eureka Forbes Ltd (India) Standard Bank PLC (United Kingdom)</p>	<p>CME: Regent Climate Connect Knowledge Solutions Private Ltd.</p>	<p>CarbonSoft Sustainable Resources Pte. Ltd (Singapore) was identified as the CME, Eureka Forbes Ltd (India) and Standard Bank PLC (United Kingdom) were identified as the project participants for the PoA in the webhosted version of PoA-DD/01/. In the final version of PoA-DD/03/, the same has been revised to include 'Regent Climate Connect Knowledge Solution Private Ltd' as the CME and project participant.</p> <p>CAR 5 was raised in this regard and has been addressed.</p>
Scope	1: Energy industries (renewable - / non-renewable sources)	1: Energy industries (renewable - / non-renewable sources)	No change
Methodology / Activity	AMS – III.AR (Version 2) / Small scale	AMS – III.AR (Version 3) / Small scale	Version of the methodology has been updated to Version 3 from Version 2.
Amount of emission reductions (tCO ₂)	Quantification of ERs at PoA level is not required as per the PoA-DD template.	Quantification of ERs at PoA level is not required as per the PoA-DD template.	NA
PoA starting date	15/12/2011 as indicated in section B.1 of PoA-DD/01/.	01/02/2013 as indicated in section B.1 of PoA-DD/03/.	Starting date has been changed to 01/02/2013. It has been changed due to UN interface requirement of starting date of SSC-

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			PoA should be minimum 4 weeks later than date of submission for registration. CL 8 was raised in this regard and has been addressed.
Real case CPA starting Date	20/12/2011 as indicated in section A.4.2.1 of CPA-DD version 01. /05/	02/08/2012 as indicated in section A.4.2.1 of CPA-DD version 05. /06/	Starting date has been changed to 02/08/2012. This date is based in the date of invoice for the order of LED lamps.
PoA Location	The proposed PoA will be carried out within the territorial limits of 58 countries listed above as Host Parties.	The political boundary of India is chosen as the geographical boundary of the SSC-PoA.	PoA location has been changed from 58 countries listed in PoA-DD/01/ to India in revised version of PoA-DD/03/.

3.1 Follow-up actions

In order to reach to a Validation Opinion a site visit along with an interview was planned for 27/11/2011. An interview was also conducted on 03/09/2012 with the representative of new CME due to the change of CME to confirm the revised structure of CME. This is in conformity with §33 (b) of Validation and Verification Manual, version 1.2/B01/. Prior to the interview salient points to be discussed were planned. Date of interview, interviewee and points discussed are given in the following table.

	Date	Name and Role	Organization	Topic
/a/	27/11/2011	T Goutham Reddy	Eureka Forbes Representative	Distribution & Implementation Framework, Operation & management, Monitoring
/b/	27/11/2011	Omair B. Nayyar	CarbonSoft Corporation Ltd.	Project concept and Design PoA-DD & CPA-DD Discussion, Baseline, additionality, monitoring and emission reduction calculation
/c/	27/11/2011	S Balakrishnan	Vrutti Livelihoods Resource Centre	Distribution & Implementation Framework, Operation & management, Monitoring
/d/	27/11/2011	Prashanth U. K.	Advait Inc (Distributor)	Distribution & Implementation Framework, Operation & management, Monitoring
/e/	03/09/2012	Nitin Tanwar	Director, Regent Climate Connect Knowledge Solution Private Ltd	CME Management Structure, Distribution & Implementation Framework, Project Design

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Cross checks were made with the information provided in PoA-DD /03/ and the information provided by interviewed personnel. Validation Team considered the views obtained in these interviews while arriving at Validation Opinion.

3.2 Resolution of outstanding issues

The objective of this phase of the validation is to resolve any outstanding issues, which need be clarified prior to Carbon Check's conclusion on the PoA design. In order to ensure transparency a validation protocol is customised for the programme. The protocol shows in transparent manner criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM-PoA is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below. The completed validation protocol for the PoA is enclosed in Appendix A to this report.

Findings established during the validation could either be seen as a non-fulfilment of CDM criteria or where a risk to the fulfilment of programme objectives is identified. Corrective action requests (CAR) are issued, where:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The CDM requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.

A request for clarification (CL) may be raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

A forward action request (FAR) may be raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity.

This conforms with § 35 to 37 of validation and verification manual, version 01.2 /B01/

Figure 1 Validation protocol tables

Validation Protocol, Table 1 - Requirement checklist					
Checklist Question	Ref.	MoV	Comments	Draft Conclusion	Final Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in seven different sections.	Makes reference to documents where the answer to the checklist question or item is found.	Explain how conformance with the checklist question is investigated. Examples are document review (DR), interview or any other follow-up actions (I), cross checking (CC) with available information relating to projects, (N/A) means not applicable.	The discussion on how the conclusion is arrived at and the conclusion on the compliance with checklist question so far.	OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements. For CAR, CL and FAR see the definitions above.	OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements.

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Validation Protocol, Table 2 - Resolution of Corrective Action Requests and Clarification			
Corrective action requests and/or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
The CAR and/or CLs raised in table 1 are repeated here.	Reference to the checklist question number in Table 1 where the CAR or CL is explained.	The responses given by the project participants to address the CARs and/or CLs.	The validation team's assessment and final conclusion of the CARs and/or CLs.

Validation Protocol, Table 3 - Forward Action Requests		
Forward action request	Reference to Table 2	Response by project participants Validation Conclusion
The FAR raised in table 1 is repeated here.	Reference to the checklist question number in Table 1 where the FAR is explained.	Response by the project participants on how forward action request will be addressed prior to first verification.

3.3 Internal quality control

Before the assessment begins, members of the team covering the technical area(s), sectoral scope(s) and relevant host country experience for evaluating the SSC-CDM-PoA/CPA are appointed. The validation report including the validation findings underwent a technical review. A technical reviewer qualified in accordance with Carbon Check's qualification scheme for CDM validation and verification performed the technical review.

3.4 Validation team and the technical reviewer(s)

The validation team and the technical reviewers consist of the following personnel:

Validation Team		Type of Involvement						
Full Name	Appointed for Sectoral scopes (Technical Areas)	Supervision of work	Desk review	Site visit & Interview	Report & protocol writing	Technical Expert Input	Reporting support	Technical Reviewer
Ravi Shankar	1.2,2.1, 2.2, 3.1, 13.1	X	X	X		X		
Amit Anand	1.2		X			X	X	
Anubhav Dimri	1.2		X		X	X	X	
Vikash Kumar Singh	1.2, 3.1, 13.1							X

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4 VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

During the course of validation a total of 25 Corrective Action Requests (CARs) and 14 Clarification Requests (CLs) were identified on webhosted PoA-DD/01/. Upon evaluation of responses provided by the Project Participant (CME) all the identified issues were closed successfully.

The issues raised, PP response and the assessment by validation team are included in Table 2 and Table 3 of Appendix A of validation protocol.

The final validation findings relate to the programme design as documented and described in the PoA-DD/01/ and g-CPA-DD/02/.

4.1 Approval and Participation

The below table summarizes the project participants and party involved. The validation team received letter of approval for Host party from the CME of the PoA /07/. The copy of the LoA was verified against the original LoA issued by the host country DNA. The contents of the LoA and the signature of the authorised issuer were also compared with those of other approval cases issued by the host country DNA. Therefore, the team has confirmed the authenticity of the letter issued. This LoA is therefore regarded as valid and meeting the CDM requirements.

The Validation Team can confirm that issued LoAs from host party refers to the precise proposed PoA title as in the PoA-DD/03/ and g-CPA-DD/04/. The Validation Team can confirm that the project participant, i.e. CME is listed in tabular form in section A.3 of the PoA DD/03/ and this information is consistent with the contact details provided in Annex 1 of the PoA-DD/03/. The letter of approval was also found to be unconditional with respect to paragraph 45 (a) to (d) of VVM, version 01.2 /B01/. And hence the LoA is in accordance with paragraphs 45 - 48 of VVM, version 01.2 /B01/. The LoA/07/, is checked and found in compliance of CDM requirements including requirements of PoA vide § 8, 9 and 10 of annex 38 EB 55/B38/.

The below table summarizes the project participant and party involved:

Project Participant	Regent Climate Connect Knowledge Solutions Private Ltd
Party Involved	India
Approval	
LoA Received	Yes
Date of LoA	12/10/2012 reference no. 4/10/2012-CCC
LoA received from	DNA of India: Ministry of Environment and Forests
Approval Number	4/10/2012-CCC
Validation of Authenticity	The LoA was received from the project participant. The Validation team does not doubt authenticity of LoA, hence did not further cross verified the authenticity by means of communication with the DNA as required in § 48 VVM, ver 01.2/B01/.
Validity of LoA	Yes, validation team considers the LoA in accordance with § 45 to 48 VVM, ver 01.2 /B01/
Participation	
Party is party to the Kyoto Protocol	Yes
Voluntary participation	Yes
Diversion of Official Development Assistance (ODA) towards host country	No

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Project contribution to Sustainable Development	Yes
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Validation of ODA

The proposed project does not involve any public funding from an Annex I Party, and the validation did not reveal any information that indicated that the project could be seen as a diversion of official development assistance (ODA) funding towards the Host Country.

The validation did not reveal any evidence that this PoA can be seen as a diversion of ODA. It is also confirmed from the letter provided by CME /08/ about no ODA diversion from Annex-I party in the development of the PoA.

Confirmation of Modalities of Communication (MoC)

The project Modalities of Communication (MoC) /10-1/ signed on 20/11/2012 was received from the CME. As required in Procedures for Modalities of Communication between Project Participants and the Executive Board, the Validation Team has verified the names of authorised signatories for future communication related to the corresponding scope of authority with UNFCCC from the Host country project participant. The Validation Team can confirm that the signatory and contact details on the MoC are authorized and credible. The MoC has been directly received from the CME. CME has nominated focal points in the Modalities of Communication as per § 2, 3 and 5 of “Procedures for modalities of communication between project participants and the executive board”, EB 45 Annex 59/B04-11/. CME has also provided a power of attorney in the name of joint focal points/10-2/. This suffices the condition in § 5 of EB 45 Annex 59/B04-11/. The joint focal points have been nominated as per § 8 of EB 45 Annex 59/B04-11/. The primary signatory for the entity “CarbonSoft Sustainable Resources Pte Ltd” is Alex Lauber and for “Standard Bank PLC” is Geoff Sinclair. CAR 6 was raised in this regard and has been addressed.

4.2 Programme of Activities Design Document

The PoA-DD /03/ and the g-CPA-DD template /04/ are in compliance with relevant form /B04-1/ /B04-2/ and as provided by UNFCCC. The applicable versions of the forms are used. Validation team confirms that the guidelines for the completion of the PoA documents (as contained in the DD form itself) in their most recent version have been followed. Relevant information was provided by the Managing entity and/ or project participants in the applicable PoA sections. Validation team further confirms the consistency between PoA-DD /03/ and the g-CPA-DD /04/ to be used for inclusion of a CPA in the registered PoA, this confirms to the requirement of § 15 (d) of EB 55 annex 38/B04-3/.

4.3 Programme Description

The “CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets” (here in after referred as the “PoA”) is promoted by the Coordinating and Managing Entity (CME) “Regent Climate Connect Knowledge Solution Private Ltd”.

The programme will reduce greenhouse gas (GHG) emissions by replacing existing and predominant use of kerosene-based lighting with installation of purpose-designed, renewable energy-charged LED/CFL lamps in India. The main objective of PoA is to improve the quality of life of people in un-electrified households. The PoA aims to support sustainable development in the host country, India. This has been confirmed from the Letter of Approval provided by the PP/07/. According to the description provided in PoA-DD/03/, validation team confirms that the PoA is a voluntary action by the CME/08/, this also confirms to the requirement of § 4 of EB 55 annex 38. CAR 3 was raised in this regard and has been addressed. There are no mandatory legislative or regulatory policy mandating the use of LED lamps within the PoA boundary/B06-8/. This has also been confirmed based on interview with CME/e/. The stated goal of the PoA is to increase dissemination of battery charged LED based lighting technology available to households and SMEs.

The baseline scenario involves usage of simple tin kerosene lamps, which are so inexpensive to produce that even with rising fuel prices being felt, they remain the cheapest option for many families. Baseline literature/12/ /13//14/, provides a description that the cost of kerosene lamp is much lower

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than the cost of electricity through grid. Kerosene is a subsidised fuel in India and hence is preferred as a fuel for domestic lighting/B06-7/. CAR 4 and CL 1 were raised in this regard and have been addressed.

Project lamps in the PoA consist of Light Emitting Diode (“LEDs”) /03/. The lighting source is connected to a rechargeable battery, which will be:

- (a) Charged by a renewable energy system included as part of the Project Lamp (e.g. a photovoltaic system or mechanical system such as a hand crank charger);

The implementation framework of the PoA involves direct selling and indirect selling. Project lamps will be distributed through in-country distribution companies, or through other, independent distribution partners. Partners will be responsible for the implementation of one or more CPAs. The two types of selling mechanisms used in the PoA are described below:

1. Direct Selling

The CPA Implementer can distribute project lamps directly to consumer from a fixed location.

2. Indirect Selling

The CPA Implementer can distribute project lamps by a manufacturer to a service merchandiser or other wholesaler, who in turn sells the products to chain store companies or independent stores and then to end user/consumer.

CPAs included in the PoA will sell or distribute project lamps to replace the use of kerosene lamps. The technical specifications of the project lamps distributed in the PoA shall meet the requirements specified in the methodology according to the type of project lamp chosen, option 1 or 2 as per § 11 and 12 of the methodology, AMS-III.AR, version 3 /B02/. A typical Project Lamp (with recharge Option: Solar) consists of solar panel that converts solar energy directly into electricity by the photovoltaic effect. Validation team confirms that the PoA-DD /03/, transparently describes a typical CPA that will be included in the PoA covering the technology or measures to be used, justification of the choice of an approved baseline and monitoring methodology i.e. AMS-III.AR, version 03/B02/, this also confirms to the requirement of § 6(f) of EB 55 annex 38/B04-3/.

Coordinating/managing entity has opted for a verification method that does not use sampling but verifies each CPA/03/. Each CPA with Option 2 project lamps has been designed to determine the percentage of project lamps distributed to end-users that are operating and in service; such monitoring will take place starting in the third year of crediting period.

A 90/10 confidence/precision level for sample size calculation for a survey to determine the number of operational project lamps shall be used.

Emission reduction claimed shall be limited to 5 for each household or each business location/03/. The project lamps shall be distributed or sold to households and other non-residential settings such as shops and small business outlets.

In PoA, the total emission reduction is accounted to a difference of Baseline emissions and Project Emissions. Leakage emissions are not accounted in the small-scale methodology and in the PoA. Project emissions are also taken as zero as the lamp charging mechanism in the PoA involves charging by renewable energy system. So, total emission reduction is due to elimination of baseline emissions.

The proposed PoA does not involve the transfer of technology and know-how from the Annex 1 countries for the CPAs implemented. CL 3 was raised in this regard and has been addressed.

As per the PoA-DD/03/ and on-site interviews it was confirmed that there are there are no mandatory requirements in India stipulating any individual to use project lamps in households or non-residential

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settings. The PoA is a voluntary action by the CME. There are no policies mandating use of LED lamps in the PoA boundary, i.e. Geographical boundary of India/B06-8/. CAR 7 was raised in this regard and has been addressed. This confirms to the requirement of §6 (b) of EB 55 annex 38.

From the site visit interviews /a/ /b/ /e/ and desk review of PoA-DD/03/ and other associated template documents, it is revealed that this programme does not involve any ODA funding. Thus, the validation team considers that no ODA funding from any Annex 1 country has been involved under this programme. This is further confirmed by the undertaking /08/ provided by the CME. CL 7 was raised in this regard and has been addressed.

As per the PoA-DD/03/, the starting date of the PoA in the PoA-DD/03/ is 01/02/2013 or date of registration, whichever is later. The length of the PoA is taken as 28 years. The starting date of the validation of the PoA is 23/12/2011 i.e. the date the PoA was published for GSC. In the PoA DD/03/ and g-CPA-DD/04/, it has been confirmed that no CPA shall be applicable for the inclusion in the PoA if the start date is before the start of validation. This is in conformity with the § 7(d) of annex 38 of EB 55 /B08/.

4.4 Eligibility Criteria for CPA Inclusion

Review of PoA-DD /03/, CPA-DD template /04/ and on-site interview with representatives of CME reveals that the CME of the PoA employs clear and unambiguous criteria for the inclusion of the CPAs. The eligibility criteria have been stated and validation team confirms the eligibility criteria are in line with requirement of § 14, annex 3 of EB 65 /B04-5/. Additionality and applicability of the applied methodology are the eligibility criteria as per the PoA DD, which is deemed appropriate and acceptable to the validation team. CAR 8, CAR 14 and CAR 15 were raised in this regard and have been addressed. This also confirms to the requirement of the § 15(b) of EB 55 annex 38/B04-3/. The eligibility criteria can be checked at the CPA level by the CME and shall be confirmed by the DOE before inclusion of the CPAs in the PoA.

Sl. No.	Eligibility criteria description in PoA-DD/03/ and g-CPA-DD/06/	Information/document required as listed in the PoA-DD/03/ and g-CPA-DD/06/	Assessment by the validation team
1.	The CPA shall be located within the geographical boundaries of the India.	The following documents shall be provided: <ul style="list-style-type: none"> GPS co-ordinates of project activity within CPA 	At the time of inclusion request of any proposed CPA, CME shall check the GPS co-ordinates of the CPA and DOE who will be performing validation shall confirm by the means of the description of the project boundary in CPA-DD to confirm the geographical boundary of CPA. This is acceptable.
2.	(a) Project lamps distributed by the CPA shall be marked with unique identification of the CPA. (b) The CPA has not yet been included in another Programme of Activities or has not yet been registered as a single CDM Project activity.	The following documents shall be provided: <ul style="list-style-type: none"> Project lamps distributed shall have a CPA code marked on their casing or on project lamp to uniquely identify the project lamp with the PoA and with the CPA. The numbering system or each CPA shall be 'CS [CPA number]' 	At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check. This is done to avoid the double counting of the project activity.

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		<ul style="list-style-type: none"> The CPA Implementing entity shall sign a contract with the CME confirming the "Inclusion of the contracted CPA in the PoA & CPA process. Self-declaration from the CME that "The CPA has not yet been included in another Programme of Activities or has not yet been registered as a single CDM Project activity." 	This is acceptable.
3.	This programme is specifically for the renewable energy-charged LED based lamps. There exists various types of lamps exist, and these all are valid under this programme as long as the project lamps comply with standards as mentioned in the methodology AMS-III.AR. (Version 03.0)	<p>Each CPA will submit documentation/certifications to the CME in this regard and the CME will record and store the information for validation and monitoring purpose.</p> <p>Documents shall include:</p> <ul style="list-style-type: none"> Certificates from Manufacturer or; Certificates from 3rd Party accredited laboratory 	<p>At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check.</p> <p>This eligibility criterion will ensure that the CPAs meet applicability conditions of the methodology/B02/.</p>
4.	<p>For the purpose of this PoA, the start date of the CPA will be when the CPA operator places the first order for lamps.</p> <p>The start date shall be after the date of GSC i.e.,23/12/2011.</p>	<p>The CPA operator will provide documentary proof (such as invoices, receipts or warranty cards) that the order was placed for the project lamps to the CME and the CME will record the start date of the CPA and confirm that a document check has been done.</p>	<p>At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check.</p> <p>This eligibility criteria will ensure CPA start date of should not be before start date of validation as required by §7(d) of annex 38, EB 55 /B04-3/.</p>
5.	CPA shall meet the applicability conditions and other requirements of AMS-III.AR. (Version 03.0)	<p>The CPA operator shall provide all the information with proper supporting and proofs as described in section E.2 of the PoA.</p> <p>The following documents shall be provided:</p> <ul style="list-style-type: none"> Declaration from CME that CPA meets the applicability criteria. Technical specification from the manufacturer of the Solar LED lamps 	<p>At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check.</p> <p>This eligibility criterion will ensure the applicability condition of AMS – III.AR (Version</p>

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		<ul style="list-style-type: none"> • Certificates from Manufacturer or; • Certificates from 3rd Party accredited laboratory 	03)/B02/ to the proposed CPAs of the PoA.
6.	CPA shall demonstrate additionality as per Annex 27 of EB 68 (version 09.0)	<p>The following documents shall be provided to prove additionality:</p> <ul style="list-style-type: none"> • Technical specification from the manufacturer of the Solar LED lamps • Lamp sales/distribution records or distribution plan. • Emission reduction sheet <p>Additionality will be proven at CPA level.</p>	<p>At the time of inclusion request of any proposed CPA, CME shall verify the description of additionality and submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check.</p> <p>This eligibility criterion will ensure the additionality of the CPAs is justified in accordance with the guidelines and the methodology.</p>
7.	For CPA under this PoA environmental impact assessment shall be carried out in line with applicable host country regulations.	<p>The following documents shall be provided:</p> <ul style="list-style-type: none"> • Environmental analysis carried out in line with local environmental laws and detailed in section C of the CPA-DD. 	<p>At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check.</p> <p>This eligibility criterion will ensure the conditions for carrying out environmental analysis are met by the CPAs of the PoA.</p>
8.	Local stakeholder consultations will be required and conducted at CPA level.	<p>LSC will be conducted at CPA level and following documents shall be provided:</p> <ul style="list-style-type: none"> • Attendance list • Minute of the meetings 	<p>At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check.</p> <p>This would ensure that Local Stakeholder Consultation is conducted as per the requirements.</p>
9.	No official Development Aid shall be involved or diverted as a result of any activities in the CPA under the PoA.	<p>The following documents shall be provided:</p> <ul style="list-style-type: none"> • Declaration on non-involvement of ODA in PoA by CME • Declaration on non-involvement of ODA in CPA by CPA implementer 	At the time of inclusion request of any proposed CPA, CME shall submit the mentioned document to the DOE who will be performing validation for the consistency and integrity check.

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			This will ensure that No ODA from Annex 1 is involved in the PoA as well as CPA.
10.	For CPA types Where applicable, target group shall be identified in accordance with § 2 (c) of Annex 27,EB 68 (version 09.0).	The following documents shall be provided: <ul style="list-style-type: none"> • Business plan and distribution model. • Lamp sales/distribution records, if available. 	At the time of inclusion request of any proposed CPA, CME shall submit the mentioned document to the DOE who will be performing validation for the consistency and integrity check. This will ensure that target group and distribution mechanisms are correctly identified and stated.
11.	For CPA sampling requirements shall be assessed and carried out in line with requirements of Annex 4 & 5 of EB 69.	If a CPA chooses for Option 2, paragraph 12, of the methodology, wherein the lamps used will be able to generate CERs for a period of seven years, sampling will be required for the monitoring. The following documents shall be provided: <ul style="list-style-type: none"> • Sampling plan (more specifically the sampling design) • A sampling plan detailed in section B.6.1 of the CPA-DD • CME manual confirming that CPA implementer will abide by the requirements set forth by CME for the CPAs under this PoA. 	At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check. This will ensure that sampling is done as per methodology requirements and EB 69 Annex 4/B04-7/ and Annex 5/B04-8/.
12.	For CPAs under this PoA types Where applicable, the conditions that ensure that CPA in aggregate meets the small-scale or micro-scale threshold criteria and remains within those thresholds throughout the crediting period of the CPA shall be assessed in accordance with either Annex 26 of EB 68 (version 04.0) for micro-scale threshold or CMP.2, § 28 for small-scale thresholds.	The following documents shall be provided: <ul style="list-style-type: none"> • Emission reduction sheet 	At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check. This eligibility criterion will ensure compliance of PoA to small-scale threshold requirements.
13.	For CPAs under this PoA debundling checks shall be performed in line with	The following documents shall be provided: <ul style="list-style-type: none"> • Declaration from the 	At the time of inclusion request of any proposed CPA, CME shall check

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	EB 54 Annex 13.	CME <ul style="list-style-type: none">• Declaration from the CPA implementer• A detailed description of debundling check in section A.4.6 of CPA-DD• Emission reduction sheet with calculations for debundling limits	the same and the DOE who will be performing validation for the consistency and integrity check will confirm it. This eligibility criterion ensures that the SSC-PoA meets the requirement of debundling test.
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Validation team has checked the CME Management Manual /09/ and based on these documents and on-site interview with personnel involved at the CME end, validation team confirms that the CME has competencies to check the features of potential CPAs of PoA and also have competency to check that each CPA meets all requirements and eligibility criteria before submission to the DOE for the inclusion. The CME will confirm that all criteria are met by checking all the supporting evidences provided by the CPA implementer. Based on above validation team confirms the compliance of § 14 -15 of annex 3 of EB 65 /B04-5/.

4.5 Operation and Management Plan

Validation team based on the review of PoA-DD /03/ and CME Management Manual /13/ confirms that clear and transparent description of the operational and management arrangement has been established by the CME for the PoA. The same has also been confirmed during the on-site interview. All the details of individual CPAs including the documents shall be controlled at CME end. The CME will be responsible for the regular collection and storage of the monitoring data for each CPA under the PoA. The CME checks this data for quality and consistency. CL 4 was raised in this regard and has been addressed.

CME has established an operational and management plan /03//13/, which includes:

- a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies;
- b) Records of arrangements for training and capacity development for personnel;
- c) Procedures for technical review of inclusion of CPAs;
- d) A procedure to avoid double counting (e.g. to avoid the case of including a new CPA that has already been registered either as a CDM project activity or as a CPA of another PoA);
- e) Records and documentation control process for each CPA under the PoA;
- f) Measures for continuous improvements of the PoA management system;

By reviewing this validation team confirms that the CME have the competencies to check the features of potential CPAs and can ensure that each CPA meets all requirements and eligibility criteria before inclusion in the registered PoA. Based on above, validation team confirms the compliance of following, in the management system of CME (in line with the requirement of §17 annex 3 of EB 65 /B04/):

In order to avoid double counting an undertaking would be provided by the CPA implementer (operator) to the CME. This contractual arrangement would cover following points to avoid double counting of CPAs:

1. The operator is aware and agreed that the Project activity is included in the present PoA.
2. The operator undertakes that no emission reduction benefit from the Project shall be claimed by it through any other instrument either as a standalone Project or through bundle or as a CPA to any other PoA.

This is in line with the eligibility criteria provided for the inclusion of CPAs. CL 6 was raise in this regard and has been addressed.

Debundling check would be done at each CPA level. As per § 10 of EB 54 Annex 13/B04-9/, 'Guidelines on Assessment of debundling for SSC project activities', a debundling check is not required "If each of the independent subsystems/measures (e.g., biogas digester, solar home system) included

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in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check i.e., considering as not being a de-bundled component of a large scale activity”, as the independent sub-systems in this case will generate x ktCO₂e per year and if x will be lesser than 600 tCO₂e per year (1% of small-scale threshold, 60000 tCO₂e) then the CPA would be exempted from debundling check. CAR 11 was raised in this regard and has been addressed.

Based on above it can be confirmed that the CME would be able to ensure that no double counting occurs. Also, since as each CPA is uniquely identified by the unique CPA number, the CME can check whether a CPA under the PoA is already a registered CDM project or CPA in another PoA from the UNFCCC website. In this regard CME will also seek an undertaking from the CPA implementer.

Based on above validation team confirms to the requirement of the §6 (i) and § 15(c) of EB 55 annex 38/B04-3/.

4.6 Monitoring Plan

The PP has selected to verify each CPA independently and not use sampling for the CPA verification. Each CPA is identified by a unique identification number as provided in PoA-DD/03/, this would ensure that no double accounting occurs and that the status of verification can be determined anytime for each CPA. The project database will be updated on a regular basis allowing the status of the CPA to be verified at any time/09/. This is in line with the requirements of §6(i) and §6(k) of EB 55 Annex 38/B08/.

CME has opted for unique numbering system for CPAs and projects lamps for Option 1 lamps as per § 11 of the methodology AMS-III.AR/B02/. For Option 2 lamps as per § 12 of the methodology AMS-III.AR/B02/, CPA and project lamps have their individual unique numbers. For option 1, lamps will be identified by the unique number of the CPA. This is acceptable to the validation team as the Option 1 project lamps need not be monitored as per § 20-23 of the methodology, AMS-III.AR, version 03/B02/.

The validation team through document review and interviews with the relevant personnel has reviewed the procedures. The information provided has allowed the validation team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME of the PoA and the CPA implementer.

Review of monitoring plan provides a transparent system to ensure that no double counting occurs and that the status of verification can be determined any time for each CPA. Each CPA shall be uniquely identified by a unique ID number as provided in PoA-DD/03/ and the status of verification shall be determined by project database.

The main roles and responsibilities and the general scheme of monitoring plan has also been indicated in the PoA-DD. /03/

The description provided in the PoA-DD /03/ on the operational and management arrangements were confirmed based on document review and through on-site interviews.

4.7 Baseline and monitoring methodology

4.7.1 Applicability of selected methodology

The PoA has applied /02/ AMS III A.R. (version3.0). The applied version of the methodology i. e version 03 is not the latest version of methodology; however [Requests for registration can be submitted until 07 Aug 2013 23:59:59 GMT, hence acceptable to the validation team.](#) The compliance of the applied baseline and monitoring methodology /B02/ is a part of eligibility criteria as mentioned in the PoA DD /03/ and g-CPA DD /06/. The DOE shall check the same during inclusion of the CPA in the PoA. The assessment of the validation team (for the requirement to be checked during inclusion) is summarised below:

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Criteria of methodology	Justification in PoA-DD/03/ and g-CPA-DD/06/	Assessment by the validation team
Applicability to project activities:		
<p>1. This category comprises activities that replace portable fossil fuel based lamps (e.g. wick-based kerosene lanterns) with battery-charged LED or CFL based lighting systems in residential and/or non-residential applications (e.g. ambient lights, task lights, portable lights).</p>	<p>The PoA involves replacement of fossil fuel lamps with LED based lighting. The CPA will suitably demonstrate in the CPA-DD that fossil fuel lamps are a common feature in the region, where the CPA is located. It will be demonstrated through publicly available data and literature review that fossil fuel is used predominantly in the region for lighting and thus distribution of LEDs will lead to reduction on consumption of Fossil Fuels.</p>	<p>It shall be checked during inclusion of CPAs by the means of description in CPA-DD to demonstrate the wide spread use of kerosene based lamps in the geographical region selected with supporting evidence. This shall be supported by evidence in the form of publicly available data and literature review that fossil fuel is used predominantly in the region.</p>
<p>2. This methodology is applicable only to project lamps whose batteries are charged using one of the following options:</p> <p>(a) Charged by a renewable energy system included as part of the project lamp (e.g. a photovoltaic system or mechanical system such as a hand crank charger);</p> <p>(b) Charged by a standalone distributed generation system (e.g. a diesel generator set) or a mini-grid, i.e. that is not connected to a national or regional grid;</p> <p>(c) Charged by a grid that is connected to regional/national grid.</p>	<p>All the Project Lamps that will be distributed under this PoA shall use rechargeable batteries charged by:</p> <p>(a) renewable energy systems</p> <p>The details of the Project Lamp will be provided in the CPA-DD to ensure its meets the criteria of recharging as mentioned above.</p>	<p>As only option (a) is applicable to the PoA, it shall be checked during inclusion of the CPA that the project lamps have rechargeable batteries charged by renewable energy systems.</p>
<p>3. At a minimum project lamps shall be certified by their manufacturer to have a rated average life of at least:</p> <ul style="list-style-type: none"> • 5,000 hours for Option 1, paragraph 11; • 10,000 hours for Option 2, paragraph 12. <p>Rated average life is the life certified by the manufacturer or responsible vendor as being the time at which the</p>	<p>The Project Lamps under the CPA shall have a minimum average life of at least</p> <ul style="list-style-type: none"> • 5,000 hours for Option 1, paragraph 11 of approved methodology AMS III.AR. Version 03); • 10,000 hours for Option 2, paragraph 11 of approved methodology AMS III.AR. Version 03. <p>as certified by the manufacturers.</p>	<p>It shall be checked during CPA inclusion that a manufacturer's certification is provided proving minimum average life of 5000 hours or 10000 hours depending on the useful life of Solar LED lamp.</p>

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<p>lamp's initial light output will decline by no more than 30%. In addition, for project lamps charged using Option 2(c) as provided for in paragraph 2 above, the manufacturer shall certify that the battery-charging-circuit efficiency of the project lamps, at the time of the purchase, is at least 50%. For project lamps charged under option indicated in paragraph 2(b), if the mini-grid or distributed generation system is not entirely powered by renewable energy generation unit(s), the manufacturer shall certify that the project lamp's battery charging circuit efficiency, at the time of purchase, is at least 50%.</p>		
<p>4. Project lamps shall have a warranty of a minimum of one year. At a minimum, the warranty shall cover free replacement or repair of any failed lamps, batteries and where applicable solar panels. The warranty shall be provided to end users of the project lamps. In a situation where the project lamps are distributed through intermediaries, the one year warranty shall commence from the time that the project lamps are distributed to end-users.</p>	<p>All project lamps that will be distributed under the PoA shall provide the user with a minimum one-year warranty, which will cover replacement/repair of failed lamps, batteries and solar panels. The warranty shall be provided to end-users of the project lamps. The one-year warranty will commence from the time when the project lamps are distributed to end-users irrespective of any of the distribution mechanism.</p>	<p>It shall be checked during CPA inclusion that minimum one year warranty has been provided to end users and it covers replacement/repair of failed lamps, batteries and solar panels. It shall be ensured that the one year warranty shall commence from the time that the project lamps are distributed to end-users.</p>
<p>5. Project lamps shall meet or exceed the following minimum performance characteristics, which should be proven by third-party test results: (a) Light Output: luminous flux of 20 lumens or illuminance of 25 lux over an area $\geq 0.1 \text{ m}^2$ when</p>	<p>All Project Lamps included in the CPA shall meet or exceed the minimum performance parameters mentioned in paragraph 5, which will also be supported by third-party test results or manufacturer certificates.</p>	<p>The performance characteristics of the project lamps shall be met by the project lamps included in the CPA. This shall also be proved by third-party test results or manufacturer certificates.</p>

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<p>suspended at a distance of 0.75 meters or self-supported. The light output over a 2,000 hour lumen maintenance test should not decline by more than 20% for Option 1 (paragraph 11) or 15% for Option 2 (paragraph 12);</p> <p>(b) Run Time and Battery Capacity: Daily Burn Time (DBT) shall meet the following requirements:</p> <p>(i) DBT shall be equal to or greater than 3.5 hours;</p> <p>(ii) For charging option 2(a) the autonomous time of the project lamps shall meet the following requirements:</p> <ul style="list-style-type: none"> – For Option 1, paragraph 11, the autonomous time shall be equal to or greater than 150% than the DBT of the project lamps; – For Option 2, paragraph 12, the autonomous time shall be equal to or greater than 150% of the DBT of the project lamps; <p>(iii) For charging options 2(b) and 2(c) the autonomous time of the project lamps shall meet the following requirements:</p> <ul style="list-style-type: none"> – For Option 1, paragraph 11, the autonomous time shall be equal to or greater than 200% of the DBT of the project lamps; – For Option 2, paragraph 12, the autonomous time shall be equal to or greater than 200% of the DBT of the project lamps; <p>(iv) For charging with solar PV under option 2(a) the Solar Run Time for the project lamp in each month of the year (as determined per paragraph 7(g)) shall be greater than or equal to the DBT;</p> <p>(v) For charging option per 2(b) or 2(c), the project lamp shall be fully charged after eight hours of charging.</p>		
<p>6. The project design document shall explain the proposed distribution method of the project lamps.</p>	<p>All CPA implementing parties will provide distribution details by providing the following information:</p>	<p>The distribution method of project lamps shall be explained in CPA DD and official data or national/regional literature shall</p>

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<p>It shall also explain how the proposed project activity will:</p> <p>(a) Ensure that the replaced baseline lamps are those that directly consume fossil fuel. This can be done through documentation of the common practice of fuel usage for lighting in the project region (e.g. based on representative sample surveys, official data or peer reviewed literature) that demonstrates that fossil fuel is a commonly used fuel for lighting;</p> <p>(b) Eliminate potential double counting of emission reductions that could occur, for example, if more than one entity (e.g. lamp manufacturers, suppliers of solar and/or battery equipment, etc.) claims credit for emission reductions for the project lamps. At a minimum, project lamps shall be marked as CDM project lamps;</p> <p>(c) Ensure compliance with prevailing regulations pertaining to the use and disposal of batteries.</p>	<p>(a) Official data or national/regional literature on dominance of kerosene fuel for traditional lighting applications.</p> <p>(b) Description of unique project lamp identification number such as a bar code or serial number</p> <p>(c) Compliance with all relevant regulations with Host Party laws/regulations on use and disposal of batteries.</p>	<p>be provided as an evidence to prove the dominance of kerosene fuel for traditional lighting applications. It shall be demonstrated in CPA-DD that double accounting does not occur. This shall be ensured by description of unique project lamp identification number such as a bar code or serial number. Also, the documents provided in the eligibility criteria 2 shall be provided to DOE for validation. Compliance with all relevant regulations with Host Party laws/regulations on use and disposal of batteries shall also be provided in CPA-DD and confirmation shall be provided of compliance with the regulations.</p>
<p>7. The project design document shall include the minimum requirements for the design specifications of project lamps including the following specifications:</p> <p>(a) Lamp wattage (in Watts) and luminous flux output (in lumens);</p> <p>(b) Rated lamp life (in hours);</p> <p>(c) Where applicable, the type and rated capacity of the renewable energy equipment used for battery-charging (in Watts);</p> <p>(d) Type (e.g. NiMH, Lead-Acid, Li-ion), and rated capacity of the batteries (in Ampere hours);</p> <p>(e) Type of charge controller (e.g. active or passive);</p> <p>(f) Autonomous time and DBT;</p> <p>(g) Solar Run Times(s)</p>	<p>CPA-DDs must incorporate the technical description with a detailed description highlighting the 9 parameters elaborated in paragraph 7 of the methodology.</p>	<p>It shall be checked during inclusion of the CPA by the CME that the details are provided in CPA-DD.</p>

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<p>(SRT) for products with solar energy charging systems. If regional solar data are available, the maximum, minimum and average estimated SRT values for each month of a typical year shall be provided. If regional solar data are not available the standard solar day (5 kWh/m²) shall be used to estimate SRT;</p> <p>(h) Where applicable, the amount of time to fully charge the product using mechanical means or a centralized charging system (e.g. the national grid);</p> <p>(i) Physical protection against environmental factors (e.g. rain, heat, insect ingress).</p>		
<p>8. Emission reductions can only be claimed for up to five project lamps, distributed through the project activity, per each household or each business location (e.g. for commercial applications such as shops). For projects using Option 1 as per paragraph 11, compliance with this requirement can be demonstrated with documentation of the distribution procedures instead of by ex post recording of lamps distributed in each household. Any lamp distributed to a household or business location beyond the limit of five per location shall not be included in the project boundary, and emission reductions shall not be claimed for such lamps.</p>	<p>A maximum of five Project Lamps per household or business location shall be recognized as Project Lamps within the CPA Project. This will be determined by the CPA project developer's records.</p> <p>The CPA project developer will report any sales, where more than 5 lamps have been distributed to a household, only the first 5 lamps shall be eligible to earn CERs. A record of all surplus sales shall be kept and the total number of surplus lamps distributed shall be deducted from the final sales data prepared for verification.</p>	<p>It shall be checked during inclusion of the CPA by the CME that more than 5 project lamps are not included per household or business location. This shall be checked by the means of sales records. In case of any surplus sales, the total number of surplus lamps distributed shall be deducted from the sales data.</p>
<p>9. Measures are limited to those that result in emissions reductions of less than or equal to 60 kt CO₂ equivalent annually.</p>	<p>This PoA only includes individual CPAs which will result in less than or equal to 60,000 tCO₂e annually.</p>	<p>It shall be checked during CPA inclusion by the CME that CERs from the project activity do not exceed 60 kilo tonnes annually.</p>
<p>10. If monitoring is required, per paragraphs 20-23, to determine the percentage of</p>	<p>This PoA only includes CPAs which will determine the percentage of project lamps distributed to end-users that are</p>	<p>It shall be checked during CPA inclusion that CPA complies with sampling plan for all the CPAs with option 2 project lamps, to</p>

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<p>project lamps distributed to end-users that are operating and in service, such monitoring will take place in the third year of crediting period of each CPA and the results shall be used for operational years 4, 5, 6 and 7 of the project lamps of that CPA.</p>	<p>operating and in service, such monitoring will take place in the third year of crediting period of each CPA and the results shall be used for operational years 4, 5, 6 and 7 of the project lamps of that CPA.</p> <p>As per para 22 (Methodology AMS.III.AR version 3), While the percentage of project lamps that are operating and in service can be assumed to equal 100% in year 1, 2, and 3, the result of ex post monitoring survey undertaken during the third year shall be used in years 4, 5, 6 and 7.</p>	<p>determine the percentage of project lamps distributed to end-users that are operating and in service, such monitoring will take place in the third year of crediting period.</p>
<p>11. For Option 2, paragraph 12, project lamps shall be marked for clear, unique identification to associate them with each unique CPA.</p>	<p>If CPA is opting Option 2, paragraph 12 (Methodology AMS.III.AR version 3), then project lamps shall be marked for clear, unique identification to associate them with each unique CPA. Eg. CS [CPA number][unique number]</p>	<p>It shall be checked during CPA inclusion that option 2 project lamps have unique identification on the project lamps.</p>

Based on above validation team confirms to the requirement of the §6 (f) of EB 55 annex 38.

4.7.2 PoA and CPA boundary

The geographic boundary of the PoA is confirmed to within India, checked and confirmed by reviewing the PoA-DD /03/.

The boundary of the potential/future CPAs of the PoA has been assessed by considering information gathered from the site visit, interviews, and from the technological description of the PoA as stated in the PoA-DD /03/. CL 10 was raised in this regard and has been addressed.

Validation team confirms that the project boundary for the potential/future CPAs is based on the applied methodology /B02/ and the sources and gases within the boundary have been considered in a clear manner as detailed below:

- A) For the purpose of determining project activity emissions, each CPA includes:
- Project emissions are not included for the project activity as no emissions from project activity are there. Renewable energy charged systems shall be used to charge the batteries.
- B) For the purpose of determining baseline emissions, each CPA includes the following emissions sources:
- CO₂ emissions generated from the combustion of kerosene fossil fuel
- C) The spatial extent of each CPA comprises:

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In accordance with the methodology AMS-III.AR (Version 3.0.0)/B02/ the spatial extent of CPA boundary is:

- The Project Lamps as well as the charging system included in the PoA delineates the project boundary.

Validation team based on the above confirms that the project boundary as documented in the PoA-DD/03/ is justified for the future CPAs of the PoA and is fully in line with the requirements set by the applied methodology /B02/.

4.7.3 Baseline Scenario

In accordance with the methodology AMS-III.AR (Version 3.0.0) the baseline scenario is identified as the use of kerosene lighting applications for domestic/non-residential lighting needs.

The identified baseline scenario is confirmed through:

- Reports on limited access and reliability of grid electricity.
- Reports on household consumption of kerosene for lighting purposes.
- Quality of light provided by the sources

The baseline scenarios have been identified in line with the requirements of § 81 and 82 of VVM, version 01.2/B01/. CAR 16 was raised in this regard and has been addressed.

4.8 Additionality

4.8.1 Prior consideration of CDM

As per § 4 of annex 13, EB 62 /B04-6/, “Guidelines for the demonstration and assessment of prior consideration of the CDM” do not apply to PoAs, as at present it is expected that no component of the programme will commence prior to the start date of validation of the PoA.

4.8.2 Additionality of PoA

The description under the PoA DD /03/ demonstrates the compliance of § 6(e) of annex 38 of EB 55 /B04-3/. CL 5 was raised in this regard and has been addressed. The stepwise validation of the same is summarized below:

Relevant text of § 6(e) of annex 38 of EB 55	Assessment of the compliance
The proposed PoA is a voluntary coordinated action;	Based on the description provided in the PoA-DD /03/ and the on-site interviews with CME, validation team confirms that the proposed program is voluntary coordinated action by the CME. CME has also provided an undertaking of voluntary participation under CDM /08/. Furthermore the LoA /07/ from the host country DNA clearly mentions that it authorizes ToughStuff International as the CME. Also, it is stated that there are no mandatory legislative or regulatory policy mandating the use of LED lamps within the project boundary/B06-8/. Hence the proposed PoA is a voluntary coordinated action.
If the PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the CDM;	PoA-DD /03/ clearly states that the PoA is implementing a voluntary coordinated action and it would not be implemented in the absence of the PoA. As stated in PoA-DD/03/, PoA would not be

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	<p>implemented in the absence of CDM. CME has also provided an undertaking of voluntary participation under CDM /08/, stating that the projects are being developed on a voluntary basis and there is no current legislative obligation on the CME to undertake these projects/B06-8/. This has also been confirmed by the validation team from the on-site interviews with CME.</p> <p>As provided in section A.4.3 of PoA-DD/03/, the demonstration of additionality of PoA is based on the “Guidelines on the Demonstration of Additionality of Small-Scale Project Activities” EB 68 Annex 27 /B04-10/. As the PoA meets the requirements of §2(c) and is under the positive list as per §2 of EB 68 Annex 27 it can be deemed additional. Each CPA to be included under the PoA shall distribute/sell isolated units, i.e. Solar LED project lamps to households, SMEs or Small Communities.</p> <p>There are three conditions for a project to become auto additional:</p> <ol style="list-style-type: none"> 1. Project activities solely composed of isolated units; 2. Where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs); 3. Where the size of each unit is no larger than 5% of the small-scale CDM thresholds <p>As per eligibility criteria 6 stated in PoA-DD/03/, CPA shall demonstrate additionality as per Annex 27 of EB 68 (version 09.0)/B04-10/. The following documents shall be provided:</p> <ul style="list-style-type: none"> • Technical specification from the manufacturer of the Solar LED / CFL lamps • Lamp sales/distribution records or distribution plan. • Emission reduction sheet <p>The PoA fulfills the condition 2(c) of the guidelines /B04-10/ and hence does not require further documentation.</p> <p>Hence, the claim of the CME, that none of the CPAs under the PoA would occur in absence of CDM is justified. This demonstration is in compliance with § 6 of annex 38 of EB 55.</p>
<p>If the PoA is implementing a mandatory policy/regulation, this would/is not enforced;</p>	<p>Not Applicable for this PoA</p>
<p>If mandatory a policy/regulation is enforced, the PoA will lead to a greater level of enforcement of the existing mandatory policy/regulation.</p>	<p>Not Applicable for this PoA</p>

The additionality of the programme has been presented in section A.4.3 of the PoA-DD /03/. As the additionality would be demonstrated at the CPA level, “Guidelines on the demonstration of Additionality of Small scale project activities” EB 68 Annex 27, Version 09 /B04-10/ has been used to demonstrate additionality. CAR 10 was raised in this regard and has been addressed.

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Documentation of barriers is not required as per §2(c) of the guidelines /B04-10/, for the positive list of technologies that include “Project activities solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds.”

LED lamps are isolated units and users of the technology/measure have been identified as households or communities or Small and Medium Enterprises (SMEs). Size of a unit with respect to abatement of GHG emissions shall be less than 5 % of small-scale threshold value, i.e. 3000 tCO₂e. The CPAs that meet the eligibility criteria for inclusion in the PoA would therefore be deemed additional.

Based on above validation team confirms to the requirement of the §6 (e) and § 15(a) of EB 55 annex 38/B04-3/.

4.8.3 Approach for demonstrating CPA Additionality

A typical CPA included in the proposed PoA shall demonstrate additionality for the each CPA based on the “Guidelines on the demonstration of additionality of small-scale project activities (version 09.0), Annex 27 of EB68”/B04-10/.

The CPAs to be included in the PoA shall meet the requirements in line with the §2(c) of EB 68 Annex 27/B04-10/:

1. Project activities solely composed of isolated units: The proposed project activity shall solely compose of isolated units. Each Project Lamp will be an isolated unit of the project activity.
2. Where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs): The proposed project activity shall distribute Project Lamps to households and SMEs.
3. Where the size of each unit is no larger than 5% of the small-scale CDM thresholds: The proposed project activity in the PoA is a Type III project activity. The 5% of the small-scale CDM threshold is the 3000 tCO₂e per year. Therefore, each Project Lamp shall save less than 3000 tCO₂e per year.

Hence, all the future CPAs which meet the conditions specified are additional without further documentation. The CPAs that meet the eligibility criteria for inclusion in the PoA would therefore be deemed additional.

4.9 Emission reduction from a typical CPA of the PoA

The equations and choices provided in the methodology and all other methodological tools are correctly quoted in the PoA-DD /03/ and the g-CPA-DD /04/. The emission reductions of the CPAs of the PoA would be calculated using the formulae mentioned in the applied methodology AMS-III.AR (version 03) /B02/.

Validation team based on the review of PoA-DD /03/ and g-CPA-DD /04/, confirms that the formulae are correctly presented for the determination of emission reductions at CPA level. The parameters and equations presented in the PoA-DD /03/, as well as other applicable documents, have been compared with the information and requirements presented in the methodology. An equation comparison has also been made to ensure consistency between all the formulae presented in the PoA-DD/03/, g-CPA-DD/04/, calculation files (for the real case CPA DD), methodology AMS-III.AR (version 03) /B02/.

According to the applied methodology (AMS-III.AR, version03)/B02/, the emission reductions (ER_y) by the project during the crediting period are calculated as follows:

$$ER_y = \sum_{i,j} Ni,j \times (BEy,i - PEy,i,j) \times (OFy,i,j)$$

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where,

ER_y = Emission reductions in year y (tCO₂e)

$BE_{y,i}$ = Baseline emissions per project lamp in year y (tCO₂e)

$PE_{y,i,j}$ = Average project emissions in year y (tCO₂e) per project lamp

$N_{i,j}$ = Number of project lamps distributed to end users of type i with charging method j

$OF_{y,i,j}$ = Percentage of project lamps distributed to end users that are operating and in service in year y, for each lamp type i and charging method j. Assumed to be equal to 100% for years 1, 2 and 3, and equal to the value determined in paragraph 22, for years 4, 5, 6 and 7.

a) Baseline Emissions

The Baseline emissions associated with the PoA are calculated as:

$$BE_y = DV \times GF_y \times DB_y$$

where,

DV = Lamp Emission Factor

GF_y = Grid Factor in year y

DB_y = Dynamic Baseline Factor

Default value for Lamp Emission Factor has been provided as 0.092 tCO₂e. Where CPA operators choose to use alternative values the following equation shall be used to compute the DV per project lamp.

$$DV = FUR \times O \times U \times EF/1000 \times LF \times n \times NTG$$

FUR = Fuel use rate

O = Utilization rate

U = Annual utilization

EF = Fuel emissions factor

LF = Leakage factor

n = Number of fuel-based lamps replaced per project lamp

NTG = Net-to-gross adjustment factor

b) Project Emissions

There are no project emissions ($PE_y = 0$) if the project lamp charging mechanism utilized is using renewable energy systems as envisioned for the project activity.

No leakage emissions are accounted under this methodology.

4.10 Monitoring Plan of a typical CPA

The monitoring plan presented in the PoA-DD/03/ and g-CPA-DD/04/ complies with the requirements of the applicable methodology. The validation team has checked all parameters in the monitoring plan against the requirements of the methodology and no deviations have been found.

The validation team through document review and interviews with the relevant personnel has reviewed the procedures. The information provided has allowed the validation team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME of the PoA and the CPA implementer.

Data recording plans have been opted separately for the two types of project lamps, option 1 and option 2 (as per §11 and 12 of AMS-III.AR, version 03/B02/).

Option 1

For option 1 following information shall be recorded as per the sales data:

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- i. Name and unique ID number of the CPA
- ii. LED Lighting System type with details of lamp wattage, battery type and month of distribution
- iii. Distribution/Implementing partners and their contact details
- iv. Date of Registration of the CPA
- v. Start date of the CPA
- vi. CERs issued per verification period
- vii. Total Number of lamps distributed

This data shall be stored electronically for each of the CPAs included in the PoA.

Option 2

For option 2 following information shall be recorded as per the sales data:

- i. Name and unique ID number of the CPA
- ii. LED Lighting System type with details of lamp wattage, battery type and month of distribution
- iii. Distribution/Implementing partners and their contact details
- iv. Date of Registration of the CPA
- v. Unique Identification for lamps sold under the CPA
- vi. Start date of the CPA
- vii. CERs issued per verification period
- viii. Total Number of lamps distributed
- ix. Name and contact details of consumer
- x. Number of Project lamps sold to consumer
- xi. Location of sale

This data shall be stored electronically for each of the CPAs included in the PoA.

Monitoring surveys shall be done for the lamps under Option 2 of the methodology. The sampling in monitoring surveys shall be done as per the requirements of "Standard for sampling and surveys for CDM Project Activities and PoAs", EB 69 Annex 4/B04-7/, "Guidelines for sampling and surveys for CDM project activities and programme of activities", EB 69 Annex 5/B04-8/ and the methodology, AMS-III.AR, version 03/B02/. CAR 12 was raised in this regard and has been addressed.

Sampling Criteria stated in PoA-DD/03/	Assessment by Validation Team
<p>Sampling Objective The objective of the sampling is to determine the percentage of project lamps that are operational during the third year of the crediting period with a 90/10 confidence/precision.</p>	<p>It is stated in PoA-DD/03/ that the parameter estimates that are calculated from the sample data should be unbiased and reliable estimate. CME affirms to implement measures to prevent non-sampling errors. This meets the requirements of § 38 (a) of EB 69 Annex 5/B04-8/. Sampling objective is also in line with the requirements of methodology/B02/. The provision of non-sampling errors also meets the requirements of § 38 (g) of EB 69 Annex 5/B04-8/.</p>

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<p>Target Population and Sampling Frame The Target Population are recipients of project lamps.</p> <p>For CPA operators who use option 2 of the Effective useful life there shall be a Sales/ Distribution Record which shall be used to unambiguously trace the end users of the project lamps. This list shall be used to draw a sampling frame. All sampling frames shall be produced in electronic copies, which shall be used to uniquely identify the location and final recipient of the project lamps.</p>	<p>This meets the requirements of § 38 (b) of EB 69 Annex 5/B04-8/.</p>
<p>Sample Method Simple Random Sampling</p>	<p>This meets the requirements of § 38 (c) and § 38 (e) of EB 69 Annex 5/B04-8/, § 21(a) and § 21(b) of EB 69 Annex 4/B04-7/ and §23(c) of the applied methodology AMS-III.AR, version 03/B02/.</p>
<p>Sample Size Calculation</p> <p>The sampling size is determined by minimum 90% confidence interval and the 10% maximum error margin; the size of the sample shall be no less than 100. A representative sample survey of target households at 90% confidence interval and ±10% error margin will be used to ensure unbiased and reliable estimates.</p> <p>We assume that 90% of household will still use the project lamps in year 3 and response rate will be 80%.</p> $n \geq \frac{1.645^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 p(1-p)}$ <p>Where:</p> <p><i>n</i> = Sample Size <i>N</i> = total number of households. <i>p</i> = Overall Proportion 1.645 = Represents the 90% confidence required 0.1 = Represents the 10% relative precision</p> <p>As we assume that response rate will be 80%, the sample size will be increase to <i>n</i>/0.8.</p> <p>If <i>n</i> is less than 100, then as per methodology the sample size will be 100.</p>	<p>This is in line with the requirements of § 38(d) of EB 69 Annex 5/B04-8/ § 21(a) of EB 69 Annex 4/B04-7/ and §23(a) of the applied methodology AMS-III.AR, version 03/B02/.</p>
<p>Degree of Variability</p> <p>The precision level is fixed at 10%. This is in accordance with the general guidelines for sampling and surveys for small-scale CDM project activities</p>	<p>This is in line with the requirements of § 10, § 11 and § 20 of EB 69 Annex 4/B05/ and § 28 of EB 69 Annex 5/B06/.</p>
<p>Level of confidence</p> <p>Applying a confidence level of 90% a standard normal of 1.645 will be used in computation of the</p>	<p>This is in line with the requirements of § 10 and § 20 of EB 69 Annex 4/B05/ and § 28 of EB 69 Annex 5/B06/.</p>

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sample size.	
<p>Degree of variability To be conservative this sampling plan shall assume a maximum of variability of 50%.</p>	This meets the requirements of § 38 (d) of EB 69 Annex 5/B06/.
<p>Procedures for Administering Data Collection</p> <ul style="list-style-type: none"> • All the variables to measure are mentioned in section E.7.2. • The data from the sample size will be collected once in a year and timing will be randomly. <p>The data collected from the sample size will be stored by CPA owner in record books. The data will be used by CarbonSoft to prepare monitoring report and to calculate emission reductions. For calculations of emission reductions, parameters will be used conservatively or proper justification will be given in the CPA-DD.</p>	This meets the requirements of § 38 (f) and 38 (h) of EB 69 Annex 5/B06/.
<p>Procedures for Quality control and assurance</p> <p>The SSC-CPA implementation agency in its monitoring and sampling plan provided with the CPA-DD will ensure proper quality control methods are prescribed to ensure that data gathered is error free. An overall quality control and assurance strategy shall be documented in the plan. This shall include a procedure for defining outliers and under what circumstances outlier data/measurements may be excluded and/or replaced.</p> <p>The implementation agency will also provide information on each of the following in the CPA-DD:</p> <ol style="list-style-type: none"> 1) Training of field personnel, 2) Provisions for maximizing response rates 3) Documenting out-of-population cases 4) Refusals 5) Other sources of non-response, and related issues. 	This meets the requirements of § 38 (g) of EB 69 Annex 5/B06/.
<p>Implementation Plan</p> <p>The implementation plan will be provided in the CPA-DD for those CPAs utilizing Option 2 wherein the actual timelines of the sampling effort will be described. It will also contain a general description of qualifications and experience of personnel who will be engaged and if possible listing specific names, qualification and experience.</p> <p>The CPA implementation agencies will ensure that all recommendations provided in the Annex 4 of the Guidelines for unbiased estimates of sampled parameters will be followed.</p>	<p>The implementation plan shall be provided at CPA level.</p> <p>Acceptable to validation team.</p>

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The management system document of the CME /13/ provide sufficient information which forms the basis of confirmation by the validation team on the issues related but not limited to the monitoring methodology, data management, and the quality assurance and quality control procedures to be implemented in the context of the programme. Therefore, the CME and/or CPA implementer(s) will be able to implement the monitoring plan and the achieved emission reductions can be reported ex-post and verified. This confirms to the requirement of the §6 (j) of EB 55 annex 38/B04-3/.

4.10.1 Parameters determined ex-ante

Following are the parameters as per the PoA DD, fixed either ex-ante at the PoA level or shall be fixed ex-ante at the time of inclusion of the CPA:

- Grid Factor in year y (**GF**)
- Utilization rate (**O**)
- Annual utilization (**U**)
- Fuel Emission Factor (**EF**)
- Leakage Factor (**LF**)
- Number of fuel-based lamps replaced per Project Lamp (**n**)
- Quantity of kerosene fuel used per hour for domestic/non-residential setting (**FUR**)
- Net-to-gross adjustment factor (**NTG**)
- Lamp Emissions Factor (**DV**).
- Dynamic Baseline Factor (**DB_y**)

As per PoA-DD/03/, default values of the parameters from the applied methodology AMS-III.AR version 03 /B02/ shall be used for ex-ante calculation of emission reductions for a typical CPA, however CPA can chose to use alternative values if adequate research/monitoring and documentation is provided by the project proponent. This is in line with the requirements of § 15 of applied methodology AMS-III.AR, version 03/B02/. CAR 17, CAR 18, CAR 19, CAR 20, CAR 21, CAR 22, CAR 23, CAR 24, CL 11 and CL 12 were raised in this regard and has been addressed.

4.10.2 Parameters determined ex-post

Following are the parameters as per the PoA-DD, shall be monitored ex-post by the CPAs of the PoA:

- Number of project lamps distributed to end users (**N_{i,j}**)
- Unique Identification of each lamp sold under the PoA for lamps to be credited for up to 7 years (**USN**)
- Percentage of distributed lamps which are in service and operational in year (**OF_{y,i,j}**)

Monitoring parameters used in PoA-DD and the appropriateness of the source that will be used for ex-post calculation of emission reductions is given in the following table:

Ex-post parameter	Data source and reliability
Number of project lamps distributed to end users (N_{i,j})	<p>The number of project lamps distributed to end users shall be established by the sales record established for each lamp and shall record:</p> <p>If 2 years crediting period</p> <ul style="list-style-type: none"> - number of Project lamps distributed (N_{i,j}) - type of Project lamp distributed (lamp wattage, battery type, charging method, the date of distribution) <p>If 7 years crediting period</p> <p>Additional to the above, data to unambiguously identify recipient of each project lamp, for all the Project lamps</p> <ul style="list-style-type: none"> - Customer details - Name - Surname - Identification information

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Unique Identification of each lamp sold under the PoA for lamps to be credited for up to 7 years (USN)	Each CPA will be accorded a unique number and furthermore each CPA will accord each solar lamp its own number. This will avoid double accounting and is acceptable to validation team.
Percentage of distributed lamps which are in service and operational in year (OF_{y,i,j})	<p>For project lamps that will claim emission reductions for 7 years under option 2, paragraph 12 of the applied methodology AMS-III.AR, version 03/B02/, monitoring surveys shall be done to assess the number of operational project lamps distributed to end-users under the project activity.</p> <p>Value of 100% for years 1, 2 and 3 shall be taken and then the value derived from Percentage of lamps distributed that are operational after year 3. Monitoring surveys will be conducted from year 3 of the individual CPA crediting period using random sampling methods.</p> <p>This is acceptable to the validation team.</p>

4.10.3 Monitoring and reporting system and quality assurance

The operational and management structure of the CME in context of the PoA has been clearly described in the PoA-DD /03/ and checked from the review of CME Manual /09/ provided by the CME. The responsibilities and institutional arrangements for data collection and archiving have been clearly provided in the same document /09/. CL 13 was raised in this regard and has been addressed.

The SSC-CPA implementation agency in its monitoring and sampling plan provided with the CPA-DD will ensure proper quality control methods are prescribed to ensure that data gathered is error free. An overall quality control and assurance strategy shall be documented in the plan. This shall include a procedure for defining outliers and under what circumstances outlier data/measurements may be excluded and/or replaced.

The implementation agency will also provide information on each of the following in the CPA-DD:

- 1) Training of field personnel,
- 2) Provisions for maximizing response rates
- 3) Documenting out-of-population cases
- 4) Refusals
- 5) Other sources of non-response, and related issues.

4.11 Environmental Impacts

It has been indicated in the PoA DD, that the environmental analysis shall be done at the individual CPA level. This is deemed appropriate in the context of the CPAs of the PoA. CL 9 was raised in this regard and has been addressed.

4.12 Local stakeholders consultation

It has been indicated in the PoA DD, that the local stakeholder consultation shall be done at the individual CPA level. This is deemed appropriate in the context of the CPAs of the PoA..

5 Comments By Parties, Stakeholders And NGOs

The PoA-DD /01/ (without version number and date), g-CPA-DD/02/ and real-case CPA-DD/05/ (without version number and dated 20/12/2011) were made publicly available on UNFCCC's website: <https://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/ISDXOTZM941SFMINYZPODCDX70SUEK/view.html>) and parties, stakeholders and NGOs were invited through the CDM website to provide

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comments during a 30 days period from 23/12/2011 to 21/01/2012. No comment was received during this period.

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APPENDIX A

VALIDATION PROTOCOL FOR PROGRAMME OF ACTIVITIES

CarbonSoft Open Source PoA, LED Lighting Distribution: Emerging Markets

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Validation Protocol CDM-PoA-DD

Table 1 Conformity of CDM Programme of Activities

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	GSP	Final
A. GENERAL DESCRIPTION OF SMALL-SCALE PROGRAMME OF ACTIVITIES (POA)				
A.1. Title of the small-scale programme of activities (PoA)				
A.1.1. Does the used PoA title clearly enable to identify the unique CDM programme of activities?	/01/, /04/	<p>The title stated in the PoA-DD clearly enables to identify the unique CDM programme of activities. However it has not been confirmed by any of the host parties. Accordingly CAR is raised.</p> <p>CAR 1: Section A.3 of the PoA-DD enlists Fifty-eight (58) countries as Host parties involved.</p> <p>However Letters of Approval (LoA) from the host countries have not been provided to DOE for Validation.</p> <p>LoA from India has also been provided for validation.</p>	CAR1	<input checked="" type="checkbox"/>
A.1.2. Are there any indications concerning the revision number and the date of the revision?	/01/	<p>No, the PoA-DD does neither indicate the version number of the document nor the date of revision of the document. Hence CAR is raised.</p> <p>CAR 2: The version number and the date of revision of the document are not provided in section A.1 of the PoA-DD. Section A.1 of PoA-DD/03/ has been updated to indicate Version number and Date of revision of document.</p>	CAR 2	<input checked="" type="checkbox"/>
A.1.3. Is this consistent with the time line of the programme's history?	/01/	<p>Depends on the closure of CAR 2 above.</p> <p>Yes, this is consistent with the time line of the programme's history.</p>	Refer CAR 2	<input checked="" type="checkbox"/>
A.2. Description of the small-scale programme of activities				
A.2.1. Is the description delivering a transparent overview of the general operating and implementing framework of the PoA?	/01/	<p>The CDM programme activities (CPAs) included in the PoA will be implemented in the fifty-eight countries identified as emerging markets. The PoA involves distribution of Light Emitting Diode (LED) or Compact Fluorescent Lamps ("CFLs") lighting systems in the countries enlisted in sec. A.4.1 of the PoA-DD, leading to replacement of existing and predominant use of kerosene-based (fossil fuel) lighting systems.</p>	CL1	<input checked="" type="checkbox"/>

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		<p>PP has also provided the general overview of operating and implementing framework of the PoA in the form process flow for a generic project. However the description of the programme of activities is not presented clearly. Also the references used cannot be identified uniquely.</p> <p>CL 1: The description of the small scale programme of activities is not presented clearly, like:</p> <ul style="list-style-type: none"> • It is not explained how CarbonSoft aims to provide lowest priced solar lamp. • Also, it is not explained what role CarbonSoft plays in supporting the development of the lamps as stated in sec A.2. of PoA-DD. • Contribution to sustainable development is not explained in sec. A.2. of PoA-DD. • PP does not provide all the references in a uniquely identifiable manner. Like, http://light.lbl.gov/pubs.html. 		
A.2.2. Is the policy/measure or stated goal of the PoA clearly and unambiguously presented?	/01/	<p>It has been stated that the implementation of PoA will have following impacts:</p> <ul style="list-style-type: none"> • Cost Savings • Energy Conservation • Job Creation • Clean Energy Education • Improved education environment • Improved health and safety. 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.3. Is there a valid confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity.	/01/	<p>The PoA-DD has not clearly demonstrated that the proposed PoA is a voluntary action by the coordinating/managing entity; hence CAR has been raised.</p> <p>CAR 3: In section A.2 of the PoA-DD, it is not evident that the PoA is Voluntary action by coordinating/managing entity.</p> <p>It is stated in Section A.2 of the PoA-DD/03/ that the PoA is Voluntary action by CME. Also an undertaking/08/ has been provided by the CME confirming the same.</p>	CAR-3	<input checked="" type="checkbox"/>
A.2.4. Does the description of the technology to be applied provide sufficient and	/01/	<p>It is understood that the current lighting system practiced in countries situated in Indian Sub-continent involves use of kerosene (fossil fuel) based</p>	CAR-4	<input checked="" type="checkbox"/>

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<p>transparent input to evaluate its impact on the greenhouse gas balance?</p>		<p>lamps/lanterns as compared to the renewable energy charged LED lights being distributed by the project activity. Thus, the project, by reducing consumption of fossil fuel results in reduction of GHG emissions.</p> <p>CAR 4: However, analysis has only been provided for Indian Sub-continent and not for all the countries listed under the emerging markets for the project activity.</p>		
<p>A.2.5. Is the brief explanation how the programme will reduce greenhouse gas emission transparent and suitable?</p>	/01/	<p>Depends on closure of CAR 4. Yes, the explanation how the programme will reduce greenhouse gas emission transparent and suitable.</p>	Refer CAR 4	☑
<p>A.3. Coordinating/managing entity and participants of SSC-PoA</p>				
<p>A.3.1. Is the form required for the indication of project participants correctly applied?</p>	/01/	<p>Yes, the form required for the indication of project participants has been correctly applied in the section A.3 of the PoA-DD.</p> <p>CL 2: However, the description of the project participant has not been provided in a tabular format. Also, it is not clear whether the project participants are public or private entities.</p>	CL 2	☑
<p>A.3.2. Is the participation of the listed entities or Parties in the PoA confirmed by each one of them?</p>	/01/	<p>Yes, the participation of listed entities was confirmed. But the participation of listed parties in the PoA is not confirmed. Hence CAR is raised.</p> <p>Depends on the closure of CAR 1 above.</p>	Refer CAR 1	☑
<p>A.3.3. Is all information on participants / Parties provided in consistency with details provided by further chapters of the PoA-DD (in particular annex 1)?</p>	/01/	<p>CAR 5: Information on participants/Parties provided is not consistent throughout the document. The name of CME is not consistent throughout the document. CarbonSoft Sustainable Resources Pte. Ltd (Singapore) is the CME. But across the PoA DD CarbonSoft or CarbonSoft corporation is mentioned. Also the name of CME provided in sec A.3 does not match with the one provided in Annex 1. The name of the CME has been revised in version 02 of PoA-DD/03/. The name of CME is provided consistently throughout the document.</p>	CAR 5	☑
<p>A.3.4. Is it evident that the coordinating or managing entity of the PoA is the entity which communicates with the Executive Board (EB)?</p>	/01/	<p>CAR 6: CarbonSoft Sustainable Resources Pte. Ltd (Singapore), which is a project participant, is the coordinating/managing entity of the PoA, which</p>	CAR 6	☑

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		<p>communicates with the Executive Board (EB).</p> <p>However, no supporting documents like MoC have been provided affirming the same.</p> <p>Modalities of Communication (MoC)/B10-1/ have been provided to DOE for validation.</p> <p>The focal points of contact in MoC are Alex Lauber from “CarbonSoft Sustainable Resources Pte Ltd” and Geoff Sinclair from “Standard Bank PLC”. CME has provided a power of attorney/B10-2/ as per the requirements of para 5 and 8 of “Procedures for modalities of communication between project participants and the executive board”, EB 45 Annex 59/B04-11/.</p>		
A.4. Technical description of the small-scale programme of activities				
A.4.1. <i>Location of the programme of activities</i>				
A.4.1.1. Does the information provided on the location of the programme allow for a clear definition identification of the boundary for the PoA in terms of a geographical area, within which all CPAs included in this PoA will be implemented?	/01/	<p>The PoA-DD in section A.4.1 clearly states that geographic area within which all CPAs included in the PoA will be implemented throughout the regions and provinces of the Fifty-eight (58) countries identified as host parties.</p> <p>PP has also provided a procedure for inclusion of more countries post-registration.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.1.2. Is the consideration of all applicable national and/or sectoral policies and regulations of each host country within the boundary evident and substantiated?	/01/	<p>The consideration of all applicable national and/or Sectoral policies and regulations of each host country within the boundary is not evident and not clearly substantiated. Hence CAR is raised.</p> <p>CAR 7:</p> <p>The section A.4.1.2 of PoA-DD does not provide the description on policies or regulations on switching fossil fuel based lighting with LED/CFL lighting system including description on all applicable national and/or Sectoral policies and regulations, which are relevant to the PoA with respect to the GDM-SSC-PoA-DD, Version 01.</p> <p>Section A.4.1.2 of PoA-DD/03/ provides the description on policies or regulations on switching fossil fuel based lighting with LED lighting. There are no mandatory requirements in India for individuals or families to use LED lamps. This has been confirmed through policies on use of renewable energy/B06-8/.</p>	CAR 7	<input checked="" type="checkbox"/>

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A.4.1.3. Is/are the Host Party (ies) stated?	/01/	Yes, all the host parties have been listed and stated.	☑	☑
A.4.2. Description of a typical small-scale CDM programme activity (CPA)				
A.4.2.1. Is it unambiguously stated which technology or measures are to be employed by the SSC-CPA?	/01/	<p>It has been stated that the traditional kerosene based lighting system would be replaced with LED lighting system.</p> <p>Also it has been specified that the detailed technical specifications are to be provided at CPA level, and the guidelines have been specified for the same in section 4.2.2.</p> <p>However, the eligibility criteria have been stated ambiguously and vaguely. Only the methodology requirements have been stated but the corresponding eligibility criteria have not been specified clearly for a CPA in sec A.4.2.2. This is not in line with “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (version 01.0)” EB 65 Annex 3. Also, the specific characteristic of technology or measure to be used is not clearly stated in the section A.4.2.1 of the PoA-DD. The types of technology that can be employed by CPA are to be specified clearly. Hence a CAR is raised.</p> <p>CAR 8: In section A.4.2.1 of the PoA-DD the PP is requested to:</p> <ul style="list-style-type: none"> • Clearly state the eligibility criteria for the CPAs. • Provide details about specific characteristics of technology or measure to be applied by the PoA. 	CAR 8	☑
A.4.2.2. Is the type and category of project activities correctly identified and indicated?	/01/	<p>Yes, the type of the PoA is correctly identified as “Type III: Other project activities” and indicated in the PoA-DD but the category has not been identified and indicated. Hence CAR is raised.</p> <p>CAR 9: In section A.4.1.2 of POA-DD, the category of the project activity has not been indicated.</p>	CAR 9	☑
A.4.2.3. Does the technical design of the project activity reflect current good practices?	/01/	<p>Depends on closure of CAR 8 above.</p> <p>Yes, the technical design of the project activity reflects current good practices.</p>	Refer CAR 8	☑
A.4.2.4. Does the implementation of the project activity require any technology transfer from Annex-I-countries to the host country (ies)?	/01/	<p>Whether the project involves technology transfer from Annex-I country is not clear. Hence CL is raised.</p> <p>CL 3: The PP is requested to clarify in section A.4.1.2 of the PoA-DD, whether the PoA involves any technology transfer from Annex-I countries to the host</p>	CL 3	☑

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		country-		
A.4.2.5. Is the technology implemented by the project activity environmentally safe?	/01/	Depends on closure of CAR 8 above. Yes, the technology implemented by the project activity environmentally safe.	Refer CAR 8	<input checked="" type="checkbox"/>
A.4.2.6. Is the information provided in compliance with actual situation or planning?	/01/	Depends on closure of CAR 8 above. The information provided is in compliance with actual situation or planning and confirmed during site visit.	Refer CAR 8	<input checked="" type="checkbox"/>
A.4.2.7. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	/01/	Depends on closure of CL 3 above. Current practices in India involve usage of Kerosene for lighting applications. Using LED based project lamps would lead to better quality of life and is better than baseline technology.	Refer CL 3	<input checked="" type="checkbox"/>
A.4.2.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	/01/	There is no information provided on training and maintenance efforts required to carry out the project as per schedule. Hence CL is raised. CL 4: The PP is requested to clearly specify in the PoA-DD about what training and maintenance efforts required to carry out the project as per schedule during the project period.	CL 4	<input checked="" type="checkbox"/>
A.4.2.9. Is information available on the demand and requirements for training and maintenance?	/01/	Depends on closure of CL 4 above. Training procedures are provided in section E.7.2 of PoA-DD/03/.	Refer CL 4	<input checked="" type="checkbox"/>
A.4.2.10. Are there clear and unambiguous eligibility criteria for the inclusion of a SSC-CPA into the PoA?	/01/, /06/	Depends on closure of CAR 8 above. Yes, eligibility criteria for the inclusion of a SSC-CPA into the PoA are provided in a clear and unambiguous manner.	Refer CAR 8	<input checked="" type="checkbox"/>
A.4.3. Description of how the anthropogenic emissions of GHG by sources are reduced by a SSC-CPA below those that would have occurred in the absence of the registered PoA (assessment and demonstration of additionality of the PoA as a whole)				
A.4.3.1. Is it evident and clearly documented that the proposed PoA is a voluntary coordinated action?	/01/	PoA-DD uses "Guidelines for demonstrating additionality of micro-scale project activities" as an additionality demonstration tool. However, in sec I para 1 of the tool reference to decision 2/CMP.5 and 3/CMP.6 are provided, which specify their "applicability to Type III projects that reduce emissions by less than 20,000 tonnes of carbon dioxide equivalent per annum". In the PoA-DD it is not evident and clearly documented that the proposed PoA is a voluntary coordinated action by the CME. Also, PP doesn't clearly mention in the eligibility criteria that project activity for the CPAs would be off-grid/grid activity. And PP states in PoA-DD that the project meets points (b) and (c) of	CL 5 and CAR 10	<input checked="" type="checkbox"/>

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		<p>Para 2 of the stated guidelines for micro-scale projects. Hence CL is raised.</p> <p>CAR 10: Additionality tool for microscale that has been used for project activity does not specify the condition for a CPA to generate less than 20,000 tonnes of carbon dioxide equivalent per annum as required for a type III project activity.</p> <p>CL 5: In section A.4.3 of the PoA-DD, PP needs to:</p> <ul style="list-style-type: none"> • Substantiate with evidence the proposed voluntary coordinated action would not be implemented in the absence of the PoA. • State that the PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the PoA; • State that if the PoA is implementing a mandatory policy/regulation, this would/is not enforced; • State that if mandatory policy/regulation is enforced, the PoA will lead to a greater level of enforcement of the existing mandatory policy/regulation. • Clearly state whether the CPAs should be grid/off grid activities. <p>Yes, it is evident and clearly documented that the proposed PoA is a voluntary coordinated action. Supporting evidence in the form of undertaking/08/ is also provided.</p> <p>Section A.4.3 of PoA-DD/03/ provides description of additionality for the PoA in line with relevant guidelines. It also provides an eligibility criteria in line with Para 15 and Para 16 of EB 65 Annex 3 for inclusion of CPAs based on it.</p>		
<p>A.4.3.2. Is it evident and substantiated that this voluntary coordinated action would not be implemented in the absence of the PoA?</p>	<p>/01/</p>	<p>Depends on closure of CAR 10 and CL 5 above.</p> <p>Yes, it is evident and substantiated that this voluntary coordinated action would not be implemented in the absence of the PoA</p>	<p>Refer CAR 10 and CL 5</p>	<p><input checked="" type="checkbox"/></p>
<p>A.4.3.3. Is it evident and substantiated that in case the PoA implements a mandatory policy or regulation this would not be enforced otherwise?</p>	<p>/01/</p>	<p>Depends on closure of CAR 10 and CL 5 above.</p> <p>NA</p>	<p>Refer CAR 10 and</p>	<p><input checked="" type="checkbox"/></p>

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<p>A.4.3.4. Is it evident and substantiated that in case the PoA implements a mandatory policy or regulation that is enforced the PoA will lead to a greater level of enforcement?</p>	/01/	<p>Depends on closure of CAR 10 and CL 5 above.</p> <p>NA</p>	<p>CL 5 Refer CAR 10 and CL 5</p>	<p><input checked="" type="checkbox"/></p>
<p>A.4.4. Operational, management and monitoring plan for the programme of activities (PoA)</p>				
<p>A.4.4.1. Is there a clear and transparent description of the operational and management arrangements established by the coordinating/managing entity?</p>	/01/	<p>The PoA-DD doesn't provide clear and transparent information on operational and management arrangements established by the CME. Also it is not clear why "Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities" (EB 65, Annex2) has been referenced. Hence a CL has been raised.</p> <p>CL 6: The section A.4.4.1 of the PoA-DD, does not provide information on:</p> <ul style="list-style-type: none"> • The provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA. • It is not clear why "Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities" (EB 65, Annex2) has been referenced. <p>The PoA-DD/03/ provides clear and transparent information on operational and management arrangements established by the CME. The provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA. This shall be a responsibility of 'New CPA Reviewer'.</p> <p>The error on the reference of standards of sampling has been revised.</p>	CL 6	<p><input checked="" type="checkbox"/></p>
<p>A.4.4.2. Is there a record keeping system for each CPA under the PoA?</p>	/01/	<p>Yes, record and documentation control system has been established under 'Data Management officer'.</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>A.4.4.3. Is there a system or procedure to avoid double accounting, i.e. to avoid that an included CPA under this PoA already is a registered CDM project or CPA in another PoA?</p>	/01/	<p>Yes, a system or procedure to avoid double accounting has been established under 'New CPA reviewer'.</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>A.4.4.4. Is there a system or procedure to detect whether a SSC-CPA to be included in the</p>	/01/	<p>In the section A.4.4.1 of the PoA-DD, the PP has tried to establish a system for the assessment whether a SSC-CPA to be included in the PoA is not a de-</p>	<p>CAR 11</p>	<p><input checked="" type="checkbox"/></p>

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<p>PoA is not a de-bundled component of another CPA or CDM project?</p>		<p>bundled component of another CPA or CDM project on the basis of small-scale threshold of Type I methodology. The same is not correct and hence a CAR has been raised.</p> <p>CAR 11: The justification provided in the section A.4.2 of the PoA-DD on whether a SSC CPA to be included in the PoA is not a de-bundled component of another CPA or CDM project is not as per the guidelines provided in EB 47, Annex 32, paragraph 9. The guidelines for a Type I methodology has been used for a Type III methodology.</p> <p>The justification provided in section A.4.2 of the PoA-DD/03/ for de-bundling check has been revised and is in line with relevant guidelines.</p>		
<p>A.4.4.5. Are provisions in place to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA?</p>	/01/	<p>Depends on closure of CAR 11 above.</p> <p>Yes, there are provisions in place to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA. An undertaking shall be provided by the CPA implementer to confirm the same.</p>	Refer CAR 11	<input checked="" type="checkbox"/>
<p>A.4.4.6. Is there a monitoring plan for the PoA, including a description of the proposed statistically sound sampling methods or procedures to be used by the DOE for the verification (please consider sampling among CPAs and within CPAs)?</p>	/01/	<p>The description provided by PP in the section A.4.4.2 of the PoA-DD provides monitoring plan or procedure to be followed. It also states that a sampling method would be used at the discretion of DOE. Implementing entity would be responsible for collecting data within CPA (primary data) and CME will store all data electronically for the CPAs. However, no sampling criteria have been mentioned in sec. A.4.2.2.</p> <p>CAR 12: Sampling criteria that would be used by the PP for the verification of amount of CERs are to be stated clearly in sec. A.4.4.2 and sec. E.7.2. Sampling criteria that would be used by the PP has been specified in section A.4.4.2 and Annex 4 of PoA-DD/03/ and is in line with EB 67 Annex 6.</p>	CAR 12	<input checked="" type="checkbox"/>
<p>A.4.4.7. In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA, does the monitoring plan provide a transparent system to ensure that no double accounting occurs and that the status of verification can be determined any time for</p>	/01/, /10/	<p>Depends on closure of CAR 12.</p> <p>Sampling criteria that would be used by the PP has been specified in section A.4.4.2 and Annex 4 of PoA-DD/03/ and is in line with EB 67 Annex 6.</p>	Refer CAR 12	<input checked="" type="checkbox"/>

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each CPA?				
A.4.5. Public funding of the small-scale project activity				
A.4.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	/01/	The information provided in PoA with respect to public funding or diversion of ODA is not transparent and clearly evidenced. Hence CL is raised. CL 7: PP needs to justify with supportive documents that no ODA has been diverted in this project activity as stated in the section A.4.5 of the PoA-DD.	CL 7	<input checked="" type="checkbox"/>
A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PoA-DD (in particular annex 2)?	/01/	Depends on the closure of CL 7 above. All information provided is consistent with the details given in remaining chapters of the PoA-DD/03/. There is no information provided in Annex-2.	Refer CL 7	<input checked="" type="checkbox"/>
B. DURATION OF THE PROGRAMME OF ACTIVITIES				
B.1. Starting date of the programme of activities				
B.1.1. Is the programme's starting date clearly defined and reasonable?	/01/	No, the starting date of PoA has not been specified clearly. Only the date PoA is web-hosted by UNFCCC, i.e.15/12/2011, is provided. Also if this date is assumed to be the start date of programme of activity then it puts a serious question on the viability of the project as the date of global stakeholder consultation is 23/12/2011, which is a week later than the webhosting. Hence CL is raised. CL 8: The PP should clarify with suitable evidence the starting date of the PoA-DD as mentioned in the section B.1 and justify as to why the global stakeholder consultation date is before the start date of the programme of activities. Start date of PoA stated in section B.1 of PoA-DD/03/ has been modified which is correct with respect to the timeline of the project activity.	CL 8	<input checked="" type="checkbox"/>
B.2. Length of the programme of activities (PoA)				
B.2.1. Is the assumed length of the PoA clearly defined by the coordinating managing entity and reasonable (max 28 years)?	/01/	Yes, the length of the PoA as mentioned in section B.2 is 28 years and hence reasonable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C. ENVIRONMENTAL ANALYSIS				
C.1. Definition of the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken:				

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C.1.1. Is it defined whether the environmental analysis takes place at PoA or CPA level?	/01/	Yes, it is defined in the section C.1 of the PoA-DD that the environmental analysis takes place at the CPA level.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.1.2. Is the choice whether the environmental analysis takes place at PoA or CPA level justified?	/01/	The PoA-DD does not clearly justify and document the reason for conducting environmental analysis at CPA level. Hence GL is raised. GL-9: In the section C.1 of the PoA-DD, the PP should clearly justify and document the reason for conducting environmental analysis at CPA level. Yes, it is justified that the environmental analysis takes place at CPA level.	GL-9	<input checked="" type="checkbox"/>
C.2. Documentation on the analysis of the environmental impacts of the PoA, including transboundary impacts:				
C.2.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	/01/	Environment Impact Assessment would be done in line with the pertinent laws and regulations at the CPA level. An environmental analysis will be conducted only in the first CPA project of each host country.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.3. Will the project create any adverse environmental effects?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.4. Were trans-boundary environmental impacts identified in the analysis?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.3. Please state whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA of the PoA:				
C.3.1. Have the identified environmental impacts been addressed in the project design sufficiently?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.3.2. Does the project comply with environmental legislation in the host country?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.3.3. Is, per host country laws/regulations, an environmental impact assessment necessary for a typical CPA?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D. STAKEHOLDERS' COMMENTS				
D.1. Please indicate the level at which local stakeholder comments are invited. Justify the choice:				
D.1.1. Is there a clear statement whether the stakeholder comments will be invited at PoA or CPA level?	/01/	Yes, the section D.1 of the PoA-DD clearly states that stakeholder comments will be invited at CPA level.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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D.1.2. Is the choice justified in a clear and reasonable manner?	/01/	Yes, the section D.1 of the PoA-DD justifies in a clear and reasonable manner the reason for inviting stakeholder comments at CPA level.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.3. If the stakeholder comments will be invited at PoA level, is there sufficient information provided, on how comments by local stakeholders were invited?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.4. If the stakeholder comments will be invited at PoA level, is there a summary of the contents?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.5. If the stakeholder comments will be invited at PoA level, is there sufficient information provided, on how due account was taken of any comments received?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2. Brief description how comments by local stakeholders have been invited and compiled				
D.2.1. Have relevant stakeholders been consulted?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.2. Have appropriate media been used to invite comments by local stakeholders?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.3. Summary of the comments received				
D.3.1. Is a summary of the received stakeholder comments provided?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.4. Report on how due account was taken of any comments received				
D.4.1. Has due account been taken of any stakeholder comments received?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E. APPLICATION OF A BASELINE AND MONITORING METHODOLOGY TO A TYPICAL SSC-CPA				
E.1. Title and reference of the approved SSC baseline and monitoring methodology applied to SSC-CPA included in the PoA				

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E.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	/01/, /B02/	Yes, the title, reference number and the version number of the baseline and monitoring methodology are correctly mentioned in the section E.1 of the PoA-DD.	☑	☑
E.1.1.2. Is the applied version the most recent one and / or is this version still applicable?	/01/, /B02/	The PoA applies Version 02 of the methodology “AMS III.AR. - Substituting fossil fuel based lighting with LED/CFL lighting systems” which is the latest version available for the applied methodology.	☑	☑
E.1.1.3. Is the applied SSC methodology approved by the board, for use in PoA?	/01/, /B02/	Yes, the applied SSC methodology has been approved by the board, for use in PoA.	☑	☑
E.2. Justification of the choice of the methodology and why it is applicable to a SSC-CPA				
E.2.1.1. Is the applied methodology considered the most appropriate one?	/01/, /B02/	<p>Yes, the applied methodology “AMS III.A.R. - Substituting fossil fuel based lighting with LED lighting systems” is the most appropriate small-scale methodology for this kind of program that involves substitution of kerosene (fossil fuel) based lighting with LED/CFL lighting systems. However, not all points have been discussed as per the above mentioned methodology.</p> <p>CAR 13: Not all points have been discussed as per the applied methodology.</p>	CAR 13	☑
E.2.1.2. Does the SSC methodology account for leakage in the context of a SSC-CPA?	/01/, /B02/	<p>No, the SSC methodology “AMS III.A.R. - Substituting fossil fuel based lighting with LED lighting systems” does not account for leakage in context of a SSC-CPA.</p> <p>The applied methodology does not provide for assessment of leakage.</p>	☑	☑
E.2.1.3. Criterion 1: This category comprises activities that replace portable fossil fuel based lamps (e.g. wick-based kerosene lanterns) with battery-charged LED based lighting systems in residential and/or non-residential applications (e.g. ambient lights, task lights, portable lights).	/01/, /B02/	<p>In section E.2 of the PoA-DD, the PP states as demonstrated in “Carbon to Light” and other supporting documents provided the use of portable, cheap kerosene lamps is prevalent across populations across the countries included in the PoA.</p> <p>However, the supporting documents PP has provided include details only for south Asian countries and not for all the countries listed as host parties.</p> <p>Refer CAR 4 above.</p>	Refer CAR 4	☑

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<p>E.2.1.4. Criterion 2: This methodology is applicable only to project lamps whose batteries are charged using one of the following options:</p> <p>(a) Charged by renewable energy system (e.g. photovoltaic systems or mechanical systems such as wind battery chargers);</p> <p>(b) Charged by a standalone distributed generation system (e.g. a diesel generator set) or a mini-grid;</p> <p>(c) Charged by a grid that is connected to regional/national grid.</p>	<p>/01/ /B02/</p>	<p>The justification provided by PP in the section E.2 of the PoA-DD states that project Lamps shall have batteries that are charged using:</p> <p>a. Charged by renewable energy systems included as part of the Project Lamp (e.g., photovoltaic systems or mechanical systems such as wind battery chargers).</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>E.2.1.5. Criterion 3: At a minimum project lamps shall be certified by their manufacturer to have a rated average life of at least 5,000 hours. Rated average life is the life certified by the manufacturer or responsible vendor as being the time at which the lamp's initial light output will decline by no more than 30%. In addition, the manufacturer shall certify that the project lamps' battery charging efficiency, at the time of purchase, is at least 50%.</p>	<p>/01/ /B02/</p>	<p>PoA-DD specifies that Project Lamps selected by the CPA shall meet the conditions:</p> <ul style="list-style-type: none"> At a minimum, Project Lamps, shall be certified by their manufacturer to have a rated average life of at least 5,000 hours (if the CPA goes with Option 2, the lamp must have an average life of 10,000 hours) Manufacturer certification that the Project Lamp's battery charging efficiency, at the time of the purchase, is at least 50% 	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>E.2.1.6. Criterion 4: Project Lamps shall have a minimum of one year warranty.</p>	<p>/01/ /B02/</p>	<p>PoA-DD specifies that Project Lamps selected by the CPA shall meet the condition:</p> <ul style="list-style-type: none"> Project Lamps shall have a minimum of a one year warranty 	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>E.2.1.7. Criterion 5: The project design document shall explain the proposed method of distribution of project lamps. It shall also explain how the proposed project activity will:</p>	<p>/01/ /B02/</p>	<p>In section A.2, the PoA-DD states that each CPA project will potentially involve the distribution of a range of lighting products that meet the quality requirements stipulated in AMS.III.AR. It will be decided at CPA level.</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>E.2.1.7.1. Ensure that the replaced baseline lamps are only those directly consuming fossil fuel. This can be done through documentation of the common practice</p>	<p>/01/ /B02/</p>	<p>In PoA-DD it has not been discussed how the lamps replaced in the baseline are only those directly consuming fossil fuel and no evidence has been provided to support the same. Hence CAR is raised.</p>	<p>CAR -14</p>	<p><input checked="" type="checkbox"/></p>

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<p>of fuel usage for lighting in the project region (e.g. based on representative sample surveys, official data or peer reviewed literature);</p>		<p>CAR 14: The eligibility criterion has not been discussed in the PoA-DD and not demonstrated how it has been ensured that the lamps, which would be replaced in the baseline, are only those, which are directly consuming fossil fuel.</p> <p>In revised version of PoA-DD/03/, it has been demonstrated that it would be ensured that the lamps, which would be replaced in the baseline, are only those, which are directly consuming fossil fuel.</p> <p>This shall be ensured by providing official data or national/regional literature on dominance of kerosene fuel for traditional lighting applications.</p>		
<p>E.2.1.7.2. Eliminate double counting of Emission Reductions, for example due to LED manufacturers, suppliers of solar and/or battery equipment, or others claiming credit for Emission Reductions for the project lamps. At a minimum project lamps shall be marked as CDM project lamps;</p>	<p>/01/ /B02/</p>	<p>All Project Lamps shall have a unique identification so that it is marked as being within the CPA Project. This would eliminate double counting of Emission Reductions.</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>E.2.1.7.3. Ensure compliance with prevailing regulations pertaining to use and disposal of batteries.</p>	<p>/01/ /B02/</p>	<p>The CPA Project shall demonstrate and ensure compliance with prevailing regulations pertaining to the use and disposal of batteries.</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>E.2.1.8. Criterion 6: The project design document shall include design specification of project lamps such as:</p> <ul style="list-style-type: none"> (a) Lamp wattage (in Watts) and illuminance (in lux); (b) Lamp rated lifetime (in hours); (c) Where applicable type and the rated capacity of renewable energy equipment for charging the battery (in Watts); (d) Type (e.g. NiMH, Lead-Acid, Li-ion), and rated capacity of the battery (in Ampere Hours); (e) Type of charge controller (e.g. active or passive); 	<p>/01/ /B02/</p>	<p>Depends on closure of CAR 8 above. Yes, the technical design specifications in PoA-DD/03/ are provided in line with § 7 of the methodology.</p>	<p>Refer CAR 8</p>	<p><input checked="" type="checkbox"/></p>

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<p>(f) Autonomous Time and Daily Burn Time; (g) Where applicable (with solar energy charging systems) maximum, minimum and average monthly Solar Fraction values during the year; (h) Where applicable grid charging time; (i) Physical protection against weather impacts (e.g. rain, heat, insect ingress).</p>												
<p>E.2.1.9. Criterion 7: The project activity shall restrict the number of project lamps distributed through the project activity to no more than five per household (for residential applications) or per business location (e.g. for commercial applications such as shops).</p>	/01/, /B02/	<table border="1"> <tr> <th>Applicability checklist</th> <th>Yes / No / NA</th> </tr> <tr> <td>Criterion discussed in the PoA-DD?</td> <td>Yes</td> </tr> <tr> <td>Compliance provable?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PoA-DD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No / NA											
Criterion discussed in the PoA-DD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
<p>E.2.1.10. Criterion 8: Measures are limited to those that result in emissions reductions of less than or equal to 60 kt CO₂ equivalent annually.</p>	/01/, /B02/	<table border="1"> <tr> <th>Applicability checklist</th> <th>Yes / No / NA</th> </tr> <tr> <td>Criterion discussed in the PoA-DD?</td> <td>No</td> </tr> <tr> <td>Compliance provable?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>No</td> </tr> </table> <p>CAR 15: PP has not demonstrated how technology measure that are being implemented are limited to those that result in emissions reductions of less than or equal to 60 kt CO₂ equivalent annually.</p> <p>The aggregate emission reductions from a CPA shall be limited to 60,000 tCO₂e.</p> <p>Eligibility criterion 12 has been developed for CPA inclusion under the PoA in revised version of PoA-DD/03/ to meet the thresholds of small-scale/micro-scale projects.</p>	Applicability checklist	Yes / No / NA	Criterion discussed in the PoA-DD?	No	Compliance provable?	Yes	Compliance verified?	No	CAR 15	☑
Applicability checklist	Yes / No / NA											
Criterion discussed in the PoA-DD?	No											
Compliance provable?	Yes											
Compliance verified?	No											
<p>E.3. Description of the sources and gases included in the SSC-CPA boundary</p>												

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<p>E.3.1.1. Does the SSC-CPA boundary include the physical and geographical location where the programme activities take place?</p>	/01/	<p>No, it has not been indicated clearly that the project boundary includes physical, geographical location where the programme of activities take place.</p> <p>CL 10: Clearly state the SSC-CPA boundary including the physical and geographical location where the programme activities take place.</p> <p>Section E.3 of the PoA-DD/03/ has been revised to indicate the SSC-CPA boundary clearly in line with the requirements of the methodology AMS-III.AR, version 03/B02/. The Project Lamps as well as the charging system are included in the PoA boundary.</p>	CL 10	☑
<p>E.3.1.2. Are all sources and gases within the boundary considered in a clear manner?</p>	/01/	<p>Yes, all sources and gases within the boundary have been considered in a clear manner.</p>	☑	☑
<p>E.3.1.3. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PoA-DD?</p>	/01/	<p>Depends on closure of CL 10</p> <p>Yes, the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PoA-DD/03/.</p>	Refer CL 10	☑
<p>E.4. Description of how the baseline scenario is identified and description of the identified baseline scenario:</p>				
<p>E.4.1.1. Have all technically feasible baseline scenario alternatives to the PoA been identified and discussed by the PoA-DD? Why can this list be considered as being complete?</p>	/01/, /B02/	<p>The description of the baseline scenario and its identification has not been provided clearly in the section E.4 of the PoA-DD. Hence CAR is raised.</p> <p>CAR 16: The PoA-DD neither provides a description of all technically feasible baseline scenario alternatives to the PoA nor the most plausible baseline scenario.</p> <p>Baseline scenario has been identified in section E.4 of PoA-DD, in line with the applicable methodology AMS-III.AR, version 03/B02/.</p> <p>Alternative scenarios have not been identified correctly as they are not a mandatory requirement as per § 82 and 83 of VVM, version 01.2/B01/.</p>	CAR 16	☑
<p>E.4.1.2. Does project identify correctly and exclude those options not in line with regulatory or legal requirements?</p>	/01/	<p>Depends on the closure of CAR 16 above.</p> <p>Yes, project correctly identifies and excludes those options not in line with regulatory or legal requirements.</p>	Refer CAR 16	☑
<p>E.4.1.3. Have applicable regulatory or legal requirements been identified?</p>	/01/	<p>Depends on the closure of CAR 16 above.</p> <p>There are no requirements on usage of LED lamps in host country.</p>	Refer CAR	☑

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E.4.1.4. Does the PoA-DD identify the most likely baseline scenario in absence of the project activity?	/01/	Depends on the closure of CAR 16 above. Yes, the PoA-DD identify the most likely baseline scenario in absence of the project activity	16 Refer CAR 16	<input checked="" type="checkbox"/>
E.4.1.5. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc)?	/01/, /12/	Depends on the closure of CAR 16 above. Baseline literature has been used to support the baseline identification/13//14/.	Refer CAR 16	<input checked="" type="checkbox"/>
E.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of a typical SSC-CPA, included in a registered PoA (assessment and demonstration of additionality):				
E.5.1. Are the key criteria and data for assessing additionality of a SSC-CPA that is to be included into the PoA clearly and unambiguously stated?	/01/	Depends on the closure of CAR 8. Yes, the key criteria and data for assessing additionality of a SSC-CPA that is to be included into the PoA clearly and unambiguously stated.	Refer CAR 8	<input checked="" type="checkbox"/>
E.5.2. Key criteria and data for assessing additionality of a SSC-CPA				
E.5.2.1. Are the key criteria and data for assessing additionality of a SSC-CPA that is to be included into the PoA based on the additionality assessment in section E.5.1 of the PoA-DD?	/01/,	Depends on the closure of CAR 8. Yes, the key criteria and data for assessing additionality of a SSC-CPA that is to be included into the PoA based on the additionality assessment in section E.5.1 of the PoA-DD	Refer CAR 8	<input checked="" type="checkbox"/>
E.5.2.2. Is the choice of the criteria justified, based on the analysis in section E.5.1 of the PoA-DD?	/01/	Depends on the closure of CAR 8. Yes, the choice of the criteria justified, based on the analysis in section E.5.1 of the PoA-DD.	Refer CAR 8	<input checked="" type="checkbox"/>
E.5.2.3. Does it become evident how these criteria would be applied to assess the additionality of a typical CPA at the time of inclusion?	/01/	Depends on the closure of CAR 8. Yes, it is evident that these criteria would be applied to assess the additionality of a typical CPA at the time of inclusion.	Refer CAR 8	<input checked="" type="checkbox"/>
E.5.2.4. Is this information incorporated into the specific CDM-SSC-CPA-DD ("real case")?	/01/	Depends on the closure of CAR 8. Yes, this information is incorporated into the specific CDM-SSC-CPA-DD	Refer CAR 8	<input checked="" type="checkbox"/>
E.5.2.5. If the starting date of the programme activity is before the date of validation, is evidence available to prove that incentive from the CDM was seriously considered in the decision to proceed with the programme activity?	/01/	Depends on the closure of CL 8 above. Start date of the PoA is after the date of validation.	Refer CL 8	<input checked="" type="checkbox"/>

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E.5.2.6. Is a complete list of barriers developed that prevents the project activity to occur?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
E.5.2.7. Does this list include at least one of the following barriers?	/01/	Barrier	Discussed?	Verifiable?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Investment	NA	NA		
		Technological	NA	NA		
		Due to prevailing practice	NA	NA		
		Other	NA	NA		
NA						
E.5.2.8. Does the discussion sufficiently take into account relevant national and/or sectoral policies?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
E.5.2.9. Is transparent and documented evidence provided on the existence and significance of these barriers?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
E.5.2.10. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
E.6. Estimation of Emission reductions of a CPA						
<i>E.6.1. Explanation of methodological choices, provided in the approved baseline and monitoring methodology applied, selected for a typical CPA</i>						
E.6.1.1. Is it explained how the procedures provided in the methodology are applied?	/01/, /B02/	Yes, the applicability of the procedures provided in the methodology has been clearly indicated in the PoA-DD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
E.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	/01/, /B02/	Yes, selection of options offered by the methodology has been correctly justified and this justification is in line with the situation verified on-site.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Determination of Project Emission (Comment on any line answered "No")						
E.6.1.3. Component 1: Emissions from the consumption of fossil fuel	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
		Project emission checklist	Yes / No /NA			
		Component discussed in the PoA-DD?	NA			
		Formulae correctly applied?	NA			
E.6.1.4. Component 2: Emissions from the consumption of electricity.	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
		Project emission checklist	Yes / No /NA			
		Component discussed in the PoA-DD?	NA			

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		Formulae correctly applied?	NA		
E.6.1.5. Component 3: Emissions from the consumption of non-condensable gases.	/01/	NA		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Project emission checklist	Yes / No /NA		
		Component discussed in the PoA-DD?	NA		
		Formulae correctly applied?	NA		
E.6.1.6. Component 4: Emissions from water reservoirs of hydro power plant	/01/	NA		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Project emission checklist	Yes / No /NA		
		Component discussed in the PoA-DD?	NA		
		Formulae correctly applied?	NA		
E.6.2. Equations, including fixed parametric values, to be used for calculation of emission reductions of a SSC-CPA:					
E.6.2.1. Are the formulae required for the determination of emission reductions correctly presented, enabling a complete identification of parameters to be used and / or monitored?	/01/	No, the formulae required for the determination of emission reductions and monitoring parameters are not clearly presented in the PoA-DD.		CAR 17	<input checked="" type="checkbox"/>
		CAR 17: The PoA-DD in section E.6.2 does not clearly provide formulae required for the determination of emission reductions correctly presented, enabling a complete identification of parameters to be used and / or monitored, like parameters DV, ER_y , $BE_{y,i}$, $PE_{y,i,j}$ have not been explained. Also the equation for DV has not been specified. The default parametric values in equations have been updated in section E.6.2 of revised version of PoA-DD/03/ and is in line with AMS-III.AR version 3/B02/.			
E.6.2.2. Are the fixed parametric values, to be used for calculation of emission reductions of a SSC-CPA, completely presented?	/01/	Depends on closure of CAR 17 above.		Refer CAR 17	<input checked="" type="checkbox"/>
		Yes, the fixed parametric values, to be used for calculation of emission reductions of a SSC-CPA are completely presented.			
E.6.3. Data and parameters that are to be reported in CDM-SSC-CPA-DD form					
E.6.3.1. Is the list of parameters presented in chapter E.6.3 considered to be complete with regard to the requirements of the applied methodology?	/01/, /B02/	Yes, the list of parameters presented is complete with regards to the requirements of the applied methodology.			<input checked="" type="checkbox"/>
E.6.3.2. Comment on any line answered with "No"					

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<p>E.6.3.2.1. Parameter Title: FUR – Fuel use rate (litres/hour)</p>	<p>/01/ /B02/</p>	<table border="1" data-bbox="1048 204 1870 494"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No/NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>No</td> </tr> <tr> <td>Has this value been verified?</td> <td>NA</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>Yes</td> </tr> </tbody> </table> <p>CAR 18: Only fixed parametric values available for calculation of emission reduction are to be stated in sec. E.6.2. Values that may be determined at the CPA level are to be specified in sec. E.6.3.</p>	Data Checklist	Yes / No/NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	No	Has this value been verified?	NA	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<p>CAR 18</p>	<p><input checked="" type="checkbox"/></p>
Data Checklist	Yes / No/NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	No																					
Has this value been verified?	NA																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
<p>E.6.3.2.2. Parameter Title: DV – Default emission factor (tCO2e)</p>	<p>/01/ /B02/</p>	<table border="1" data-bbox="1048 651 1870 941"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>No</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>No</td> </tr> <tr> <td>Has this value been verified?</td> <td>NA</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>NA</td> </tr> </tbody> </table> <p>Depends on closure of CAR 18. CAR 19: The description for the parameter DV is not correct.</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	No	Source clearly referenced?	Yes	Correct value provided?	No	Has this value been verified?	NA	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	<p>Refer CAR 18 and CAR 19</p>	<p><input checked="" type="checkbox"/></p>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	No																					
Source clearly referenced?	Yes																					
Correct value provided?	No																					
Has this value been verified?	NA																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
<p>E.6.3.2.3. Parameter Title: DB – Dynamic baseline factor</p>	<p>/01/ /B02/</p>	<table border="1" data-bbox="996 1149 1825 1374"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>No</td> </tr> <tr> <td>Correct value provided?</td> <td>No</td> </tr> <tr> <td>Has this value been verified?</td> <td>No</td> </tr> </tbody> </table>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	<p>CAR 20</p>	<p><input checked="" type="checkbox"/></p>				
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	No																					

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		<table border="1"> <tr> <td>Choice of data correctly justified?</td> <td>No</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>NA</td> </tr> </table> <p>CAR-20: The data source, value and justification for choice of data are not correctly provided for the parameter DB. Like, "The growth rate of the country will have a direct effect on the consumption of kerosene in non-grid connected areas" needs proper justification.</p>	Choice of data correctly justified?	No	Measurement method correctly described?	NA																
Choice of data correctly justified?	No																					
Measurement method correctly described?	NA																					
E.6.3.2.4. Parameter Title: h – Utilization rate (hours/day)	/01/, /B02/	<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>Yes</td> </tr> <tr> <td>Has this value been verified?</td> <td>Yes</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>NA</td> </tr> </tbody> </table>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
E.6.3.2.5. Parameter Title: d– Utilization (days/year)	/01/, /B02/	<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>NA</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>No</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>Yes</td> </tr> <tr> <td>Has this value been verified?</td> <td>Yes</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>NA</td> </tr> </tbody> </table> <p>CAR-21: Appropriate description of the parameter is not in line with the reference provided.</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	NA	Appropriate description of parameter?	No	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	CAR 24	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	No																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
E.6.3.2.6. Parameter Title: EF_{CO2} – Fuel emission factor (kgCO₂/litre)	/01/, /B02/	<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> </tbody> </table>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					

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		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	NA		
E.6.3.2.7. Parameter Title: L – Leakage factor	/01/, /B02/	Data Checklist	Yes / No / NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	NA		
E.6.3.2.8. Parameter Title: N – Number of fuel-based lamps replaced per project lamp	/01/, /B02/	Data Checklist	Yes / No / NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	NA		
E.6.3.2.9. Parameter Title: N-G – Net to gross factor	/01/, /B02/	Data Checklist	Yes / No / NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		

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		Measurement method correctly described?	NA																				
E.6.3.2.10. Parameter Title: W_i – Wattage of project lamp distributed to end users, of type id	/01/	<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>NA</td> </tr> <tr> <td>Has this value been verified?</td> <td>NA</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>No</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>No</td> </tr> </tbody> </table> <p>CAR 22: The justification for choice of data is not correctly provided for parameter W_i.</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	No	Measurement method correctly described?	No		CAR 22	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						
Correct value provided?	NA																						
Has this value been verified?	NA																						
Choice of data correctly justified?	No																						
Measurement method correctly described?	No																						
E.6.3.2.11. Parameter Title: n_i–Number of units sold	/01/ /B02/	<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>NA</td> </tr> <tr> <td>Has this value been verified?</td> <td>No</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>No</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>NA</td> </tr> </tbody> </table> <p>CL 11: The justification for the choice of data and how it would be verified is not provided for parameter n_i.</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	NA	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	NA		CL 11	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						
Correct value provided?	NA																						
Has this value been verified?	No																						
Choice of data correctly justified?	No																						
Measurement method correctly described?	NA																						
E.6.3.2.12. Parameter Title: D_{intro}–Date of purchase of project lamp	/01/ /B02/	<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>No</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>NA</td> </tr> </tbody> </table>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	No	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	NA		CL 12	<input checked="" type="checkbox"/>						
Data Checklist	Yes / No / NA																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	No																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						
Correct value provided?	NA																						

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		<table border="1"> <tr> <td>Has this value been verified?</td> <td>No</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>No</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>NA</td> </tr> </table>	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	NA		
Has this value been verified?	No									
Choice of data correctly justified?	No									
Measurement method correctly described?	NA									
		<p>CL 12: The data unit and the justification for the choice of data for parameter D_{intro} has not been provided.</p>								
E.7. Application of the monitoring methodology and description of the monitoring plan										
E.7.1. <i>Data and parameters to be monitored by each SSC-CPA</i>										
E.7.1.1. Is the list of parameters presented in chapter E.7.1 considered to be complete with regard to the requirements of the applied methodology?	/01/, /B02/	<p>Yes, the list of parameters presented is complete. Following parameters have been listed:</p> <ul style="list-style-type: none"> • n_1 • D_{intro} • Customer Information • UI • n_0 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
E.7.1.2. Comment on any line answered with “No”										
E.7.1.2.1. Parameter Title:n_1– Number of units sold	/01/, /B02/	<p>Depends upon closure of CL 11 above.</p> <p>Not used by the updated version of methodology.</p>	Refer CL 11	<input checked="" type="checkbox"/>						
E.7.1.2.2. Parameter Title:D_{intro} - Date of purchase of project lamp	/01/, /B02/	<p>Depends upon closure of CL 12 above.</p> <p>Not used by the updated version of methodology.</p>	Refer CL 12	<input checked="" type="checkbox"/>						

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<p>E.7.1.2.3. Parameter Title: Customer Information</p>	<p>/01/ /B02/</p>	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No/NA</th> </tr> </thead> <tbody> <tr><td>Title in line with methodology?</td><td>NA</td></tr> <tr><td>Data unit correctly expressed?</td><td>NA</td></tr> <tr><td>Appropriate description of parameter?</td><td>Yes</td></tr> <tr><td>Source clearly referenced?</td><td>Yes</td></tr> <tr><td>Correct value provided for estimation?</td><td>NA</td></tr> <tr><td>Has this value been verified?</td><td>NA</td></tr> <tr><td>Measurement method correctly described?</td><td>Yes</td></tr> <tr><td>Correct reference to standards?</td><td>NA</td></tr> <tr><td>Indication of accuracy provided?</td><td>NA</td></tr> <tr><td>QA/QC procedures described?</td><td>No</td></tr> <tr><td>QA/QC procedures appropriate?</td><td>No</td></tr> </tbody> </table> <p>CAR 23: No QA/QC procedures have been specified for parameter Customer Information.</p>	Monitoring Checklist	Yes / No/NA	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	Yes	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	<p>CAR 23</p>	<p><input checked="" type="checkbox"/></p>
Monitoring Checklist	Yes / No/NA																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	No																											
QA/QC procedures appropriate?	No																											
<p>E.7.1.2.4. Parameter Title: UI</p>	<p>/01/ /B02/</p>	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No/NA</th> </tr> </thead> <tbody> <tr><td>Title in line with methodology?</td><td>NA</td></tr> <tr><td>Data unit correctly expressed?</td><td>NA</td></tr> <tr><td>Appropriate description of parameter?</td><td>Yes</td></tr> <tr><td>Source clearly referenced?</td><td>Yes</td></tr> <tr><td>Correct value provided for estimation?</td><td>NA</td></tr> <tr><td>Has this value been verified?</td><td>NA</td></tr> <tr><td>Measurement method correctly described?</td><td>Yes</td></tr> <tr><td>Correct reference to standards?</td><td>NA</td></tr> <tr><td>Indication of accuracy provided?</td><td>NA</td></tr> <tr><td>QA/QC procedures described?</td><td>Yes</td></tr> <tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr> </tbody> </table> <p>CAR 24: No QA/QC procedures have been specified for parameter UI.</p>	Monitoring Checklist	Yes / No/NA	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	Yes	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	<p>CAR 24</p>	<p><input checked="" type="checkbox"/></p>
Monitoring Checklist	Yes / No/NA																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
<p>E.7.1.2.5. Parameter Title:n₀</p>	<p>/01/ /B02/</p>	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No/NA</th> </tr> </thead> <tbody> <tr><td>Title in line with methodology?</td><td>NA</td></tr> <tr><td>Data unit correctly expressed?</td><td>NA</td></tr> <tr><td>Appropriate description of parameter?</td><td>Yes</td></tr> <tr><td>Source clearly referenced?</td><td>Yes</td></tr> <tr><td>Correct value provided for estimation?</td><td>NA</td></tr> </tbody> </table>	Monitoring Checklist	Yes / No/NA	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	NA	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>												
Monitoring Checklist	Yes / No/NA																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	NA																											

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		Has this value been verified?	NA		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
E.7.2. Description of the monitoring plan for a SSC-CPA					
E.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	/01/	<p>The operational and management structure has not been clearly described in the PoA-DD and is not adequately described to ascertain compliance with the envisioned future situation. Hence CL has been raised.</p> <p>CL 13: In section E.7.2 of the PoA-DD, clarify:</p> <ul style="list-style-type: none"> The procedure for monitoring, data collection, recording, checking, data transfer and archiving system for CPA under PoA and justify how it is consistent for all CPA under this PoA. PoA-DD does not use "Best Practices examples focusing on sample size and reliability calculations", EB 67 Annex 6 for calculating sampling size. <p>Section E.7.2 of the PoA-DD has been modified to indicate procedure for monitoring, data collection, recording, checking, data transfer and archiving system for CPA under PoA. EB67 Annex 6 has been added for sampling in Annex 4 of PoA-DD.</p>	CL-13		<input checked="" type="checkbox"/>
E.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	/01/	<p>Depends on closure of CL 13 above.</p> <p>Yes, responsibilities and institutional arrangements for data collection and archiving are clearly provided.</p>	Refer CL-13		<input checked="" type="checkbox"/>
E.7.2.3. Does the monitoring plan provide current good monitoring practice?	/01/	<p>Depends on closure of CL 13 above.</p> <p>Yes, monitoring plan is in compliance of methodology.</p>	Refer CL-13		<input checked="" type="checkbox"/>
E.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	/01/	NA		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.8. Date of completion of the application of the baseline study and monitoring methodology and the name of the responsible person(s)/entity(ies)					
E.8.1.1. Is there any indication of a date when the	/01/	Yes, a date on which baseline was determined is provided in the PoA-DD.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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baseline was determined?				
E.8.1.2. Has dd/mm/yyyy format been used to indicate the date?	/01/	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.8.1.3. Is this consistent with the time line of the PoA-DD history?	/01/	Depends on the closure of CL 8 above. Yes, date of completion of methodology is consistent with the time line of the PoA-DD history.	Refer CL-8	<input checked="" type="checkbox"/>
E.8.1.4. Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	/01/	Yes the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology is consistent with the actual situation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.8.1.5. Is information provided whether this person / entity are also considered a project participant?	/01/	No, the information provided in the PoA-DD doesn't clearly state whether this person / entity are also considered a project participant. Hence CL is raised. CL 14: Please clarify in section E.8 of PoA-DD, whether person / entity responsible for the application of the baseline and monitoring methodology is also considered a project participant. Name of person / entity responsible for the application of the baseline and monitoring methodology is provided in section A.8 of PoA-DD/03/, also it is indicated that the entity is PP and the CME.	CL 14	<input checked="" type="checkbox"/>
F. ANNEXES 1 – 4				
F.1. Annex 1: Contact Information				
F.1.1. Is the information provided consistent with the one given under section A.3?	/01/	Depends on the closure of CAR 5. Yes, the information provided is consistent with the one given under section A.3.	Refer CAR 5	<input checked="" type="checkbox"/>
F.1.2. Is the information on all private participants and directly involved Parties presented?	/01/	Depends on the closure of CAR 5. Yes, the information on all private participants and directly involved Parties presented clearly.	Refer CAR 5	<input checked="" type="checkbox"/>
F.2. Annex 2: Information regarding public funding				
F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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	presented by the project participants?				
F.2.2.	If necessary: Is an affirmation available that any such funding from Annex-I countries does not result in a diversion of ODA?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3. Annex 3: Baseline information					
F.3.1.	If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PoA-DD?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.2.	Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.3.	Does the additional information substantiate / support statements given in other sections of the PoA-DD?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4. Annex 4: Monitoring information					
F.4.1.	If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PoA-DD?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.2.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.3.	Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PoA-DD?	/01/	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Table 2 Resolution of Clarification and Corrective Action Requests

Requests by validation team	Ref. to table 1	Summary of programme owner response	Validation team Conclusion
CORRECTIVE ACTION REQUESTS			
<p>CAR 1: Section A.3 of the PoA-DD enlists Fifty-eight (58) countries as Host parties involved.</p> <p>However Letters of Approval (LoA) from the host countries have not been provided to DOE for Validation.</p>	A.1.1/	LoA from India has been submitted to the DOE.	<p>Section A.3 of PoA-DD/03/ has been modified to reflect only one country, i.e. India.</p> <p>LoA from India has been provided for validation.</p> <p>CAR closed</p>
<p>CAR 2: The version number and the date of revision of the document are not provided in section A.1 of the PoA-DD.</p>	A.1.2/ A.1.3	The version number and the date of revision of the document have been provided in the section A.1 of the PoA-DD, version 02.	<p>Section A.1 of PoA-DD/03/ has been updated to indicate Version number and Date of revision of document.</p> <p>CAR closed</p>
<p>CAR 3: In section A.2 of the PoA-DD, it is not evident that the PoA is Voluntary action by coordinating/managing entity.</p>	A.2.3	Section A.2 of the PoA-DD, version 02 has been revised and now it evidences that PoA is Voluntary action by coordinating/managing entity.	<p>It is stated in Section A.2 of the PoA-DD/03/ that the PoA is Voluntary action by CME. Also an undertaking/08/ has been provided by the CME confirming the same.</p> <p>CAR closed</p>
<p>CAR 4: Analysis has only been provided for Indian Sub-continent and not for all the countries listed under the emerging markets for the project activity.</p>	A.2.4 / A.2.5 / E.2.1.3	<p>Analysis has only been provided for Indian Sub-continent and not for all the countries because it has been decided by the PP that there will be only one host country in the PoA and i.e. India. In case the PP decides to further more add countries under the PoA post registration, they will make sure the guidelines are met as per Annex 26, EB 60.</p> <p>The same is described in the section A.2 of the PoA-DD,</p>	<p>PoA-DD/03/ has been modified to reflect India as the only host party involved. Hence technical description provides analysis of existing conditions only for India.</p> <p>CAR closed</p>

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		version 2.	
CAR 5: Information on participants/Parties provided is not consistent throughout the document. The name of CME is not consistent throughout the document. CarbonSoft Sustainable Resources Pte. Ltd (Singapore) is the CME. But across the PoA-DD CarbonSoft or CarbonSoft corporation is mentioned. Also the name of CME provided in sec A.3 does not match with the one provided in Annex 1.	A.3.3 /F.1.1 / F.1.2 / K.1.1 (CPA) / K.1.2 (CPA)	At the time of webhosting, the CME was “CarbonSoft Sustainable Resources Pte Ltd.” It was pre-decided by the “CarbonSoft Sustainable Resources Pte Ltd.” that PoA will be operational in multiple countries and initially it would start with India as the host country. Considering involvement of multiple agencies from India it was planned by the “CarbonSoft Sustainable Resources Pte Ltd” that they must have a contract with an Indian company which may also serve as the Coordinating/Managing Entity in future in respect of the PoA, if required as per the Indian / International Rules. Thereafter “CarbonSoft Sustainable Resources Pte Ltd.” decided to have a contract (dated 01 December, 2011) with “Regent Climate Connect Knowledge Solutions Private Ltd” (an Indian company). And it was a pre-requisite of the Indian DNA that CME should be an Indian entity. Thus, the “Regent Climate Connect Knowledge Solutions Private Ltd” was introduced as CME after global stakeholder consultation. Letters of voluntary withdrawal have been provided by the webhosted CME and project participants.	The name of the CME was changed during the course of validation due to the host country (India), regulation that the Letter of Approval can only be issued to an Indian company. The webhosted CME “CarbonSoft Sustainable Resources Pte Ltd” has a contractual relationship with the present CME “Regent Climate Connect Knowledge Solutions Private Ltd”, to act on its behalf for CDM related matters on the project validation. Further DOE and the CME “Regent Climate Connect Knowledge Solutions Private Ltd” also have a contract for validation. This meets the requirements of § 7 of EB 50 Annex 48/B04-12/. As all the contractual relationships were established and found that the webhosted CME has a contract with the CME for validation dated 01/12/2011/15/, that is before start of validation (GSC process). Hence, it was deemed appropriate not to republish the PoA for Global Stakeholder consultation process. As § 7 of EB 50 Annex 48/B04-12/ is not a mandatory requirement, hence it was not enforced. Letters of voluntary withdrawal/16/ have also been provided by the webhosted CME “CarbonSoft Sustainable

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			<p>Resources Pte Ltd” and the webhosted project participants “Eureka Forbes Ltd” and “Standard Bank PLC”. This complies with § 8 of EB 50 Annex 48/B04-12/ and with the requirements of § 41 of EB 30..</p> <p>The name of the CME has been updated in revised version of PoA-DD/03/. The name of CME is consistent throughout the document including the LoA issued by the host DNA..</p> <p>CAR closed</p>
<p>CAR 6: CarbonSoft Sustainable Resources Pte. Ltd (Singapore), which is a project participant, is the coordinating/managing entity of the PoA, which communicates with the Executive Board (EB).</p> <p>However, no supporting documents like MoC have been provided affirming the same.</p>	A.3.4 /	<p>Regent Climate Connect Knowledge Solution Private Ltd. is the project participant and coordinating / managing entity of the PoA. The MoC regarding the same has been provided to the DOE.</p> <p>Modalities of Communication (MoC) have been provided to DOE for validation along with these responses.</p> <p>EB 45, Annex 59, Para 2 states that “Focal point is defined as any entity, or entities, whether or not registered as project participant in the corresponding CDM project activity, nominated through the modalities of communication by all project participants to communicate with the Board and the secretariat...”.</p> <p>As per the statement it is not required for the CME to be the focal point.</p>	<p>Modalities of Communication (MoC)/B10-1/ have been provided to DOE for validation.</p> <p>The focal points of contact in MoC are Alex Lauber from “CarbonSoft Sustainable Resources Pte Ltd” and Geoff Sinclair from “Standard Bank PLC”.</p> <p>CME has provided a power of attorney/B10-2/ as per the requirements of para 5 and 8 of “Procedures for modalities of communication between project participants and the executive board”, EB 45 Annex 59/B04-11/.</p> <p>CAR closed</p>
<p>CAR 7: The section A.4.1.2 of PoA-DD does not provide the description on policies or regulations on switching fossil fuel based lighting with LED/CFL</p>	A.4.1.2	<p>Regent Climate Connect Knowledge Solution Private Ltd. is the project participant and coordinating / managing entity of the PoA. The MoC regarding the same has been provided to</p>	<p>Section A.4.1.2 of PoA-DD/03/ provides the description on policies or regulations on switching fossil fuel based lighting with LED</p>

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<p>lighting system including description on all applicable national and/or Sectoral policies and regulations, which are relevant to the PoA with respect to the CDM-SSC-PoA-DD, Version 01.</p>		<p>the DOE.</p> <p>If the geographical boundary of the SSC-CPA would be extended to the countries specified in section A.2, then applicable national and/or sectoral policies and regulations in host country will be studied and added in the PoA later on.</p>	<p>lighting. There are no mandatory requirements in India for individuals or families to use LED lamps. This has been confirmed through policies on use of renewable energy/B06-8/.</p> <p>CAR closed</p>
<p>CAR 8: In section A.4.2.1 of the PoA-DD the PP is requested to:</p> <ul style="list-style-type: none"> Clearly state the eligibility criteria for the CPAs. Provide details about specific characteristics of technology or measure to be applied by the PoA. 	<p>A.4.2.1 / A.4.2.3 / A.4.2.5/ A.4.2.6 / A.4.2.10 / E.2.1.8 / E.5.1 / E.5.2.1 / E.5.2.2 / E.5.2.3 / E.5.2.4</p>	<ul style="list-style-type: none"> Eligibility criteria for the CPAs have been defined in the section A.4.2.2 of the PoA-DD, version 02. Details about specific characteristics of technology or measure to be applied by the PoA have been described in the section A.4.2.1 of the PoA-DD, version 02. <p>The eligibility criteria provided in section A.4.2.2 of PoA-DD has been revised and developed covering all the sub-sections in Para 14 of Annex 3, EB 65.</p> <p>Also “Information / document required” has been added in section A.4.2.2 of the PoA-DD, which fulfil the requirements specified in Para 15 and Para 16 of Annex3. EB65.</p> <p>Updated version of PoA-DD is version 03.</p>	<p>The details about specific characteristics of technology or measure to be applied by the PoA have been clearly provided in section 4.2.1 of PoA-DD.</p> <p>The eligibility criteria provided in section A.4.2.2 of PoA-DD is developed covering all the sub-sections in Para 14 of EB 65 Annex 3.</p> <p>CAR closed</p>
<p>CAR 9: In section A.4.1.2 of PoA-DD, the category of the project activity has not been indicated.</p>	<p>A.4.2.2</p>	<p>The category of the project activity is III.AR and the same has been indicated in section A.4.1.2 of the PoA-DD, version 02.</p>	<p>Section 4.2.1 of PoA-DD has been modified to include type and category of the project activity.</p> <p>CAR closed</p>
<p>CAR 10: Additionality tool for micro scale that has been used for project activity does not specify the condition for a CPA to generate less than 20,000 tonnes of carbon dioxide equivalent per annum as</p>	<p>A.4.3.1/ A.4.3.2/ A.4.3.3/ A.4.3.4</p>	<p>In section A.4.3, the additionality for the PoA has been revised as per the latest guidelines “Guidelines on the Demonstration of Additionality of Small-Scale Project Activities”, version 09.0 (Annex 27, EB 68)”</p>	<p>Section A.4.3 of PoA-DD/03/ provides description of additionality for the PoA in line with relevant guidelines. It also provides an eligibility criteria</p>

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<p>required for a type III project activity.</p>		<p>There are three eligibility criterias to become a CPA additional as mentioned in the section A.4.3 of the PoA-DD.</p> <p>Point (f) of the section A.4.2.2 of the PoA-DD has been revised so that eligibility criterion for the additionality is in line with Para 15 and Para 16 of Annex 3, EB 65.</p> <p>The first eligibility criterion shall be confirmed by product specification. The second eligibility criterion shall be confirmed by taking a declaration from the CPA implementer. The third eligibility criterion shall be confirmed by checking the calculation of emission reduction from an individual lamp.</p> <p>The 3rd eligibility criteria is “Where the size of each unit is no larger than 5% of the small-scale CDM thresholds”, it means that each project lamp shall save 3000 tCO₂e per year (5% of small scale threshold i.e. 60000 tCO₂e), So it is mentioned as 3000 tCO₂e.</p>	<p>in line with Para 15 and Para 16 of EB 65 Annex 3 for inclusion of CPAs based on it.</p> <p>CAR closed</p>
<p>CAR 11: The justification provided in the section A.4.2 of the PoA-DD on whether a SSC-CPA to be included in the PoA is not a de-bundled component of another CPA or CDM project is not as per the guidelines provided in EB 47, Annex 32, paragraph 9. The guidelines for a Type I methodology has been used for a Type III methodology.</p>	<p>A.4.4.4 / A.4.4.5 / G.4.6.1 (CPA)</p>	<p>The justification on the de-bundling check has been revised in section A.4.2.2 of the PoA-DD, version 02. This is in line with the guidelines provided in EB 54, Annex 13, paragraph 10. The guidelines for a Type I methodology were mistakenly used and the same has been revised for Type III methodology.</p>	<p>The justification provided in section A.4.2 of the PoA-DD for de-bundling check has been revised and is in line with relevant guidelines.</p> <p>CAR closed</p>
<p>CAR 12: Sampling criteria that would be used by the PP for the verification of amount of CERs are to be stated clearly in sec. A.4.4.2 and sec. E.7.2.</p>	<p>A.4.4.6 / A.4.4.7</p>	<p>Sampling criteria has been described clearly in section A.4.4.2, section E.7.2 and Annex-4 of the PoA-DD, version 02.</p>	<p>Sampling criteria that would be used by the PP has been specified in section A.4.4.2 and Annex 4 of PoA-DD/03/ and is in line with EB 69 Annex 4 and annex 5.</p> <p>CAR closed</p>

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<p>CAR 13: Not all points have been discussed as per the applied methodology.</p>	<p>E.2.1.7.1</p>	<p>Section E.2 of the PoA-DD, version 02 has been revised and now all points have been discussed as per the applied methodology AMS.III.AR, version 03.</p> <p>Section E.2 of the PoA-DD has been revised and all the points are in line with AMS.III.AR, version 03.</p> <p>Updated version of PoA-DD is version 03.</p>	<p>Revised version of PoA-DD/03/ refers AMS.III.AR, version 03 as the version of the methodology used.</p> <p>Justification for the use of methodology is provided in line with the revised version of the methodology AMS.III.AR, version 03.</p> <p>CAR closed</p>
<p>CAR 14: The eligibility criterion has not been discussed in the PoA-DD and not demonstrated how it has been ensured that the lamps, which would be replaced in the baseline, are only those, which are directly consuming fossil fuel.</p>	<p>E.2.1.7.1</p>	<p>The eligibility criteria have been revised and defined in the section A.4.2.2 of the PoA-DD, version 02.</p> <p>It will be ensured in each CPA that the replaced lamps, are only those, which are directly consuming fossil fuel by official data or national/regional literature on dominance of kerosene fuel for traditional lighting applications.</p> <p>Eligibility criterion at point (e) of the section A.4.2.2 of PoA-DD ensure the compliance with applicability and other requirements of single or multiple methodology/ies applied by CPAs. This shall ensure that the lamps, which would be replaced in the baseline, are only those, which are directly consuming fossil fuel. Hence, the same has been developed as an eligibility criterion for inclusion of CPA at point (e).</p> <p>Updated version of PoA-DD is version 03.</p>	<p>In revised version of PoA-DD/03/, it has been demonstrated that it would be ensured that the lamps, which would be replaced in the baseline, are only those, which are directly consuming fossil fuel.</p> <p>This shall be ensured by providing official data or national/regional literature on dominance of kerosene fuel for traditional lighting applications.</p> <p>CAR closed</p>
<p>CAR 15: PP has not demonstrated how technology measure that are being implemented are limited to those that result in emissions reductions of less than or equal to 60 kilo tonnes CO2 equivalent annually.</p>	<p>E.2.1.10 /</p>	<p>The aggregate emission reductions from a CPA shall not exceed 60,000 tCO₂e annually. This shall be demonstrated in SSC-CPA-DD. In case, if any CPA in the PoA will have emission reduction of more than 60,000 tCO₂e annually, then being conservative there will be upper cap of 60,000 tCO₂ annually for that CPA.</p> <p>The same is inserted in the section E.2 of the PoA-DD,</p>	<p>The aggregate emission reductions from a CPA shall be limited to 60,000 tCO₂e.</p> <p>Eligibility criterion 12 has been developed for CPA inclusion under the PoA in revised version of PoA-DD/03/ to meet the thresholds of</p>

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		<p>version 02.</p> <p>The aggregate emission reductions from a CPA shall be limited to 60,000 tCO₂e. The same has been developed as an eligibility criterion at point (k) of the section A.4.2.2 of the PoA-DD for inclusion of CPA.</p> <p>Updated version of PoA-DD is version 03.</p>	<p>small-scale/micro-scale projects.</p> <p>CAR closed</p>
<p>CAR 16: The PoA-DD neither provides a description of all technically feasible baseline scenario alternatives to the PoA nor the most plausible baseline scenario.</p>	<p>E.4.1.1 / E.4.1.2 / E.4.1.3 / E.4.1.4 / E.4.1.5</p>	<p>The section E.4 of the PoA-DD version 02, provides a detailed description of plausible baseline scenario.</p> <p>Alternative baseline scenario is not provided as it is not necessary because of the following reasons:</p> <ol style="list-style-type: none"> 1. The methodology does not requires several alternative scenarios to be considered in the identification of the most reasonable baseline scenario and; 2. The project activity does not requires use of tools (such as “Tool for the demonstration and assessment of additionality” and the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario. 	<p>Baseline scenario has been identified in section E.4 of PoA-DD, in line with the applicable methodology AMS-III.AR, version 03/B02/.</p> <p>Alternative scenarios have not been identified correctly as they are not a mandatory requirement as per § 82 and 83 of VVM, version 01.2/B01/.</p> <p>CAR closed</p>
<p>CAR 17: The PoA-DD in section E.6.2 does not clearly provide formulae required for the determination of emission reductions correctly presented, enabling a complete identification of parameters to be used and / or monitored, like parameters DV, ER_y, BE_{y,i}, PE_{y,i,j} have not been explained. Also the equation for DV has not been specified.</p>	<p>E.6.2.1 / E.6.2.2</p>	<p>The section E.6.2 of the PoA-DD, version 02 has been revised and now it includes all the equations, including fixed parametric values, to be used for calculation of emission reductions of the CPA.</p> <p>Paragraph 15 of the methodology AMS-III.AR version 3 states that “Alternative values for parameters in equation to result in a different values for DV (e.g. Fuel use rate, utilization rate) can only be used if adequate research/monitoring and documentation is provided by the project proponent (e.g. strategic surveys and research conducted by national or local organizations, initiatives by international organizations or non-governmental</p>	<p>The default parametric values in equations have been updated in section E.6.2 of revised version of PoA-DD/03/ and is in line with AMS-III.AR version 3/B02/.</p> <p>CAR closed</p>

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		<p>organizations or the project proponent to collect reliable and comprehensive data)".</p> <p>Hereafter, PP has chosen to use alternative value for the Fuel Use Rate (at the CPA level) and fixed default value for all other parameters. The default parametric values are inserted in section E.6.2 of the PoA-DD and now the values are in line with AMS-III.AR version 3.</p> <p>Updated version of PoA-DD is version 03.</p>	
<p>CAR 18: Only fixed parametric values available for calculation of emission reduction are to be stated in sec. E.6.2. Values that may be determined at the CPA level are to be specified in sec. E.6.3.</p>	<p>E.6.3.2.1 / E.6.3.2.2</p>	<p>Section E.6.2 and Section E.6.3 of the PoA-DD, version 02 has been revised. Section E.6.2 contains fixed parametric values and Section E.6.3 contains value that may be Determined at the CPA level.</p> <p>Paragraph 15 of the methodology AMS-III.AR version 3 states that "Alternative values for parameters in equation to result in a different values for DV (e.g. Fuel use rate, utilization rate) can only be used if adequate research/monitoring and documentation is provided by the project proponent (e.g. strategic surveys and research conducted by national or local organizations, initiatives by international organizations or non-governmental organizations or the project proponent to collect reliable and comprehensive data)".</p> <p>Hereafter, PP has chosen to use alternative value for the Fuel Use Rate (at the CPA level) and fixed default value for all other parameters. The default parametric values are inserted in section E.6.2 of the PoA-DD and now the values are in line with AMS-III.AR version 3.</p> <p>Updated version of PoA-DD is version 03.</p>	<p>The fixed parametric values provided in section E.6.2 of revised version of PoA-DD/03/ are provided in line with the applicable methodology AMS-III.AR version 3/B02/.</p> <p>CAR closed</p>
<p>CAR 19: The description for the parameter DV is not correct.</p>	<p>E.6.3.2.2</p>	<p>The description for the parameter DV has been corrected to "Lamp Emission Factor" as described in the methodology AMS.III.AR, version 03. The necessary corrections have</p>	<p>The description of the parameter DV has been updated, and the default value used for the parameter is in line with the</p>

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		<p>been done in the section E.6.3 of the PoA-DD, version 02.</p> <p>The default values used for the parameter DV has been revised to 0.092 in section E.6.3 of the PoA-DD.</p> <p>Updated version of PoA-DD is version 03.</p>	<p>applicable methodology, AMS-III.AR version 3/B02/.</p> <p>CAR closed</p>
<p>CAR 20: The data source, value and justification for choice of data are not correctly provided for the parameter DB. Like, "The growth rate of the country will have a direct effect on the consumption of kerosene in non-grid connected areas" needs proper justification.</p>	E.6.3.2.3	<p>The data source, value and justification for choice of data have been correctly provided for the parameter DB in the section E.6.3 of the PoA-DD, version 02.</p>	<p>The data source, value and justification for choice of data provided for parameter DB has been modified and provided correctly.</p> <p>CAR closed</p>
<p>CAR 21: Appropriate description of the parameter is not in line with the reference provided.</p>	E.6.3.2.5	<p>Parameter title of 'd' has been revised to 'U' which has been in line with the methodology AMS.III.AR, version 03. The description of the parameter is also corrected and is now in line with the reference provided. The necessary changes have been done in the section E.6.2 of the PoA-DD, version 02.</p>	<p>Parameter has been revised and is in line with AMS III.AR version 03.</p> <p>CAR closed</p>
<p>CAR 22: The justification for choice of data is not correctly provided for parameter W_i.</p>	E.6.3.2.10	<p>The justification for choice of data is correctly provided for parameter W_i in the section E.6.3 of the PoA-DD, version 02.</p>	<p>Justification for the choice of data for W_i has been clearly provided in section E.6.3 of PoA-DD/03/.</p> <p>CAR closed</p>
<p>CAR 23: No QA/QC procedures have been specified for parameter Customer Information.</p>	E.7.1.2.3	<p>The parameter 'Customer Information' has been merged with the parameter 'N_{ij}' and the QA/QC procedure have been specified for the same. The corrections have been done in the section E.7.1 of the PoA-DD, version 02.</p>	<p>Parameter has been merged with parameter N_{ij} in section E.7.1 of PoA-DD.</p> <p>CAR closed</p>
<p>CAR 24: No QA/QC procedures have been specified for</p>	E.7.1.2.4	<p>QA/QC procedures have been specified for parameter UI in</p>	<p>QA/QC procedures have been</p>

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parameter UI.		the section E.7.1 of the PoA-DD, version 02.	specified for parameter UI in section E.7.1 of PoA-DD. CAR closed
CAR 25: Editorial CAR: Grammatical and punctuation errors are present across the document. Whole document requires editing.		The corrections have been done.	Revised version of PoA-DD/03/ has been modified to have reduced the number of grammatical and punctuation errors. CAR closed
CLARIFICATION REQUESTS			
CL 1: The description of the small-scale programme of activities is not presented clearly, like: <ul style="list-style-type: none"> It is not explained how CarbonSoft aims to provide lowest-priced solar lamp. Also, it is not explained what role CarbonSoft plays in supporting the development of the lamps as stated in sec A.2. of PoA-DD. Contribution to sustainable development is not explained in sec. A.2. of PoA-DD. PP does not provide all the references in a uniquely identifiable manner. Like, http://light.lbl.gov/pubs.html. 	A.2.1.	Section A.2 of the PoA-DD, version 02 ha been revised and now it is clearly presented <ul style="list-style-type: none"> The aim of the Project Participant has been revised as per their policy. It is now explained. Sustainable development is now explained in sec. A.2 of PoA-DD. The said reference has been revised. <p>Contribution to sustainable development has been revised in section A.2 of the PoA-DD and now it does not exceeds one page limit for description of sustainable development.</p> <p>Updated version of PoA-DD is version 03.</p>	The description of the project activity has been revised to indicate the aim of the PoA clearly in section A.2 of PoA-DD/03/. Contribution to sustainable development has been provided in section A.2 of PoA-DD/03/. All the references provided are also indicated clearly in the revised version of PoA-DD/03/. CL closed
CL 2: The description of the project participant has not been provided in a tabular format. Also, it is not clear whether the project participants are public or private entities.	A.3.1	The description of the project participant has been provided in a tabular format in section A.3 of the PoA-DD version 02. The project participant is a private entity. This information is also provided in section A.3.	The description of PP has been provided clearly in tabular format and has been indicated as private entity. CL closed

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<p>CL 3: The PP is requested to clarify in section A.4.1.2 of the PoA-DD, whether the PoA involves any technology transfer from Annex-I-countries to the host country.</p>	<p>A.4.2.4. / A.4.2.7</p>	<p>PoA does not involve any technology transfer from Annex-I-countries to the host country. The same is made clear in section A.4.2.1 of the PoA-DD version 02.</p>	<p>PP has clarified in section A.4.1.2 of PoA-DD that PoA does not involve any technology transfer from Annex I country.</p> <p>CL closed</p>
<p>CL 4: The PP is requested to clearly specify in the PoA-DD about what training and maintenance efforts required to carry out the project as per schedule during the project period.</p>	<p>A.4.2.8/ A.4.2.9</p>	<p>Training and maintenance efforts are added in section A.4.2.1 and section A.4.4.1 of the PoA-DD version 02.</p>	<p>Training and maintenance efforts required to carry out the project as per schedule during the project period have been updated in section A.4.2.1 and section A.4.4.1 of PoA-DD.</p> <p>CL closed</p>
<p>CL 5: In section A.4.3 of the PoA-DD, PP needs to:</p> <ul style="list-style-type: none"> • Substantiate with evidence the proposed voluntary coordinated action would not be implemented in the absence of the PoA. • State that the PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the PoA; • State that if the PoA is implementing a mandatory policy/regulation, this would/is not enforced; • State that if mandatory policy/regulation is enforced, the PoA will lead to a greater level of enforcement of the existing mandatory policy/regulation. • Clearly state whether the CPAs should be grid/off-grid activities. 	<p>A.4.3.1/ A.4.3.2/ A.4.3.3/ A.4.3.4</p>	<p>All the information has been added in the section A.4.3 of the PoA-DD version 02.</p>	<p>Relevant information has been provided in section A.4.3 of PoA-DD.</p> <p>CL closed</p>

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<p>CL 6: The section A.4.4.1 of the PoA-DD, does not provide information on:</p> <ul style="list-style-type: none"> The provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA. It is not clear why “Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities” (EB 65, Annex2) has been referenced. 	<p>A.4.4.1</p>	<p>The section A.4.4.1 has been revised as following:</p> <ul style="list-style-type: none"> The provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA has been added in ‘New CPA Reviewer’ It was a typo graphical error and has been removed. <p>The tasks of the ‘New CPA Reviewer’ have been revised and now it include the task to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA. The same is added in section A.4.4.1 at footnote 14.</p> <p>Updated version of PoA-DD is version 03.</p>	<p>In section A.4.4.1 of PoA-DD/03/ information is provided on: The provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA. This shall be a responsibility of ‘New CPA Reviewer’. The error on the reference of standards of sampling has been revised.</p> <p>CL closed</p>
<p>CL 7: PP needs to justify with supportive documents that no ODA has been diverted in this project activity as stated in the section A.4.5 of the PoA-DD.</p>	<p>A.4.5.1. / A.4.5.2.</p>	<p>No ODA has been diverted in the project. This was discussed with the validator during validation site visit and the PP has submitted a self declaration on no ODA utilization.</p> <p>ODA self-declaration (Declaration by CME and CPA Implementer) has been provided to DOE with these responses.</p>	<p>It is stated in section A.4.5 of PoA-DD/03/ that no ODA has been diverted in this project activity. CME has also provided a self-declaration to justify that no ODA has been diverted in the PoA.</p> <p>CL closed</p>
<p>CL 8: The PP should clarify with suitable evidence the starting date of the PoA-DD as mentioned in the section B.1 and justify as to why the global stakeholder consultation date is before the start date of the programme of activities.</p>	<p>B.1.1. / E.5.2.5/ E.8.1.3</p>	<p>The start date of the PoA is the 01-02-2013 or date of registration whichever is later. It has been revised in the section b.1 of the PoA-DD version 02.</p>	<p>Start date of PoA stated in section B.1 of PoA-DD/03/ has been modified which is correct with respect to the timeline of the project activity.</p> <p>CL closed</p>
<p>CL 9: In the section C.1 of the PoA-DD, the PP should clearly justify and document the reason for</p>	<p>C.1.2.</p>	<p>It is clearly justified in the section C.1 of the PoA-DD version 02 about conducting of environment analysis at CPA level.</p>	<p>Section C.1 of PoA-DD has been revised to indicate that</p>

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conducting environmental analysis at CPA level.			environmental analysis would be conducted at CPA level. CL closed
CL 10: Clearly state the SSC-CPA boundary including the physical and geographical location where the programme activities take place.	E.3.1.1 / E.3.1.3	Section E.3 of the PoA-DD, version 02 has been revised accordingly. Section E.3 of the PoA-DD has been revised and now it is in line with the para 17 of AMS III.AR version 03. Now, the project emissions have been excluded for para 2(b) and 2(c) of the methodology. Updated version of PoA-DD is version 03.	1 st Assessment Section E.3 of the PoA-DD/03/ has been revised to indicate the SSC-CPA boundary clearly in line with the requirements of the methodology AMS-III.AR, version 03/B02/. The Project Lamps as well as the charging system are included in the PoA boundary. CL closed
CL 11: The justification for the choice of data and how it would be verified is not provided for parameter n_1 .	E.6.3.2.11/ E.7.1.2.1	The said parameter refers to the Number of Project Lamps distributed. This parameter is to be monitored by each SSC-CPA and inserted in section E.7.1. Hence it is not required to justification for the choice of data as per the "PROGRAMME OF ACTIVITIES DESIGN DOCUMENT FORM (CDM-PoA-DD) - Version 01".	Parameter $N_{i,j}$ has been stated as monitoring parameter hence ex-ante value has not been provided for the same. Thus, no justification for data used is required. CL closed
CL 12: The data unit and the justification for the choice of data for parameter D_{intro} has not been provided.	E.6.3.2.15/ E.7.1.2.2	The parameter has been merged with the parameter N_{ij} This parameter is to be monitored by each SSC-CPA and inserted in section E.7.1. Hence it is not required to justification for the choice of data as per the "PROGRAMME OF ACTIVITIES DESIGN DOCUMENT FORM (CDM-PoA-DD) - Version 01".	Parameter D_{intro} is no more provided in section E.6.3 or E.7.1 of PoA-DD. CL closed
CL 13: In section E.7.2 of the PoA-DD, clarify: <ul style="list-style-type: none"> The procedure for monitoring, data collection, recording, checking, data 	E.7.2.1. / E.7.2.2 / E.7.2.3	Section E.7.2 of the PoA-DD version 02 has been revised and now it contains: <ul style="list-style-type: none"> The procedure for monitoring, data collection, 	Section E.7.2 of the PoA-DD/03/ has been modified to indicate procedure for monitoring, data collection, recording, checking, data transfer and archiving system

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<p>transfer and archiving system for CPA under PoA and justify how it is consistent for all CPA under this PoA.</p> <ul style="list-style-type: none"> PoA-DD does not use “Best Practices examples focusing on sample size and reliability calculations”, EB 67 Annex 6 for calculating sampling size. 		<p>recording, checking, data transfer and archiving system for CPA under PoA.</p> <ul style="list-style-type: none"> “Standard for sampling and surveys for CDM Project Activities and PoAs”, EB 69 Annex 4 and Guidelines for sampling and surveys for CDM project activities and programme of activities EB 69 Annex 5 for calculating sampling size has been added 	<p>for CPA under PoA. EB69 Annex 4 and EB 69 Annex 5 have been added for sampling E.7.2 of PoA-DD/03/.</p> <p>CL closed</p>
<p>CL 14: Please clarify in section E.8 of PoA-DD, whether person / entity responsible for the application of the baseline and monitoring methodology is also considered a project participant.</p>	<p>E.8.1.5</p>	<p>The entity responsible for the application of the baseline and monitoring methodology is also considered as a project participant. The same is mentioned in the section E.8 of the PoA-DD version 02.</p> <p>Name of person / entity responsible for the application of the baseline and monitoring methodology is “Regent Climate Connect Knowledge Solution Private Ltd.” and the same is now consistent with the name of CME provided in Annex 1 and A.3.</p> <p>Updated version of PoA-DD is version 03.</p>	<p>Name of person / entity responsible for the application of the baseline and monitoring methodology is provided in section A.8 of PoA-DD/03/, also it is indicated that the entity is PP and the CME.</p> <p>CL closed</p>

Table3: Forward Action Requests

Forward action request	Reference to Table 2	Response by project participants Validation Conclusion
	-	-

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APPENDIX B

CERTIFICATE OF COMPETENCE

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