



# VALIDATION REPORT TRICORONA CARBON ASSET MANAGEMENT PTE LTD

## VALIDATION OF THE GRT ENERGY SMALL SCALE SOLAR PV (PoA)

REPORT NO. THAILAND-VAL/0007/2012  
REVISION No. 02.1

BUREAU VERITAS CERTIFICATION

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## VALIDATION REPORT

BUREAU  
VERITAS

Date of first issue: 19/11/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Tricorona Carbon Asset Management Pte Ltd	Client ref.: Tatiana Boldyreva

## Summary:

Bureau Veritas Certification has made the validation of the “GRT Energy Small Scale Solar PV (PoA)” project of Tricorona Carbon Asset Management Pte Ltd and GRT Energy Company Limited while the GRT Energy Company Limited is responsible as Coordinating/Managing Entity (C/ME) for this PoA. The C/ME office located in 2/260 Nusasiri Grand Condo, 26<sup>th</sup> Floor, Soi Sukhumvit 42, Sukhumvit Road, Phrakhanong Sub-district, Klongtoey District, Bangkok, Thailand on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the Programme of Activities Design Document (PoA-DD), the project’s baseline study and monitoring plan, and other relevant documents. The validation scope entailed three phases: i) desk review of the design of Programme of Activities (PoA) and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A to the present document. Taking into account this output, the project proponent revised its PoA-DD.

In summary, it is Bureau Veritas Certification’s opinion that the PoA correctly applies the baseline and monitoring methodology AMS-I.D version 17 and meets the relevant UNFCCC requirements for the CDM, including compliance with specific requirement for PoA and the relevant host country criteria.

Report No.: THAILAND-val/0007/2012	Subject Group: CDM	
Project title: GRT Energy Small Scale Solar PV (PoA)		
Work carried out by: Dr Chumpol SRIPRAPARKORN – Team Leader Mr Pongsakorn SA-NGAPON – Team member		
Internal Technical Review carried out by: Ram M. DESAI		
Date of this revision: 19/11/2012	Rev. No.: 02.1	Number of pages: 219

## Indexing terms

Work approved by:

Flavio Gomez – Global Product Manager

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## 1 INTRODUCTION

The Tricorona Carbon Asset Management Pte Ltd has commissioned Bureau Veritas Certification to validate its Programme of Activities (PoA) project “*GRT Energy Small Scale Solar PV (PoA)*” (hereafter called “the PoA project”) at Thailand.

This report summarizes the findings of the validation of the PoA project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent PoA project operations, monitoring and reporting.

### 1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design, as documented, is sound, reasonable and meets the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

### 1.2 Scope

The validation scope is defined as an independent and objective review of the Programme of Activities Design Document (PoA-DD), the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

### 1.3 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	Dr Chumpol SRIPRAPARKORN	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input checked="" type="checkbox"/> RI
Verifier	Mr Pongsakorn SA-NGAPON	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input type="checkbox"/> RI



<b>Verifier</b>	N.A.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI
<b>Technical Specialist</b>	N.A.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI
<b>Financial Specialist</b>	N.A.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI
<b>Internal Technical Reviewer (ITR)</b>	Ram M. DESAI	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DR <input type="checkbox"/> SV <input checked="" type="checkbox"/> RI
<b>Specialist supporting ITR</b>	N.A.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI

\*DR = Document Review; SV = Site Visit; RI = Report issuance

## 2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55<sup>th</sup> meeting on 30/07/2010 including specific validation requirements for the PoA project. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a PoA project 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 completed validation protocol is enclosed in Appendix A to the present document.

### 2.1 Review of Documents

The PoA-DD, generic CPA-DD and specific CPA-DD (CPA – 001, which has been validated separately and produced into another validation report) submitted by GRT Energy Co., Ltd. and additional background documents related to the project design and baseline, i.e. country law, Small-Scale Programme of Activities Design Document Form (CDM-SSC-PoA-DD), version 01 approved methodology, Kyoto Protocol, and clarifications on validation requirements to be checked by a Designated Operational Entity were reviewed.



To address corrective action and clarification requests raised by Bureau Veritas Certification, GRT Energy Co., Ltd. revised the PoA-DD and resubmitted its final version (version 4.0) on 07/2012 (Ref /5A/).

The validation findings presented in this report relate to the project as described in the PoA-DD version 4.0

## 2.2 Follow-up Interviews

On 24/03/2012 Bureau Veritas Certification performed interviews with project participants to confirm selected information and to resolve issues identified in the document review. Representatives of GRT Energy Co., Ltd., and Biosphere Capital Pte Ltd were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
GRT Energy	<ul style="list-style-type: none"> <li>➤ Eligibility Criteria and its additionality</li> <li>➤ Description of Solar PV technology under this PoA</li> <li>➤ Applicability of Solar PV technology under methodology AMS I-D.</li> <li>➤ Letter of Approval from Thai DNA as C/ME</li> <li>➤ Emission Reduction Calculation</li> <li>➤ Operational, Monitoring and Management of the PoA</li> </ul>
Biosphere Capital (CDM Consultant)	<ul style="list-style-type: none"> <li>➤ Technology to be employed as proposed CPA</li> <li>➤ Letter of Approval from Sweden as project participant</li> <li>➤ Management and monitoring system of C/ME</li> </ul>

## 2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified to enable Bureau Veritas Certification to reach a positive conclusion on the PoA project design.

Corrective Action Requests (CARs) are issued, where:

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

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.



To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A to the present document.

## **2.4 Internal Technical Review**

The validation report underwent an Internal Technical Review (ITR) before requesting registration of the project activity.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

The Lead Verifier provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an ITR, the reviewer ensures that:

- a) The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.
- b) The review encompasses all aspects related to the PoA project which includes design of programmes of activities, baseline, additionality, eligibility criteria for CPAs, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the operational and management arrangement for the PoA, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the validation exercise, and review of sample documents.

The reviewer compiles clarification questions for the Lead Verifier and Validation Team and discusses these matters with Lead Verifier.

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the Project Participants (PPs) the finalized validation report is accepted for further processing such as uploading on the UNFCCC webpage.

## **3 VALIDATION CONCLUSIONS**

In the following sections, the conclusions of the validation are stated.





The findings from the desk review of the original PoA-DD and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A to this present document.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A to this present document. The validation of the PoA project resulted in 10 Corrective Action Requests (CARs) and 17 Clarification Requests (CLs).

The CARs and CLs were closed, based on adequate responses from the Project Participant(s) which meet the applicable requirements. They were reassessed before their formal acceptance and closure.

The number between brackets at the end of each section corresponds to the VVM paragraph.

### 3.1 Approval (49-50)

Letter of approvals (LoA) have been received (Ref /01/, /02/ and /03/):

- The letter of approval from Thailand Greenhouse Gas Management Organization (Public Organization) acting as Thailand Designated National Authority (DNA) dated on 25 May 2012 (Ref /01/) issued for GRT Energy Co., Ltd.
- The letter clarifying the approval of GRT Energy Co., Ltd. (Ref /02/), as Coordinating/Managing Entity (C/ME) of this PoA.
- The letter of approval from Swedish Energy Agency acting as Swedish Designated National Authority (DNA) dated on 18 June 2012 reference number 880-12-3998 (Ref /03/) issued for Tricorona Carbon Asset Management Pte Ltd.

Bureau Veritas Certification received these letters from GRT Energy Co., Ltd., and cross-checked its authenticity with Thai DNA's officer (Ms Penporn), it's found that project participant had submitted LoA application and Thai DNA approved the LoA on 25 May 2012 which is in line with information provided in ref /01/ and /02/. In light of this, Bureau Veritas Certification does not doubt their authenticity.

The title and contents of the letter of approval (Ref /01/, /02/, /03/) refer to the precise proposed PoA project title in the PoA-DD being submitted for registration and participation of project participant in CDM is voluntary

For the case of host country, with reference to ref /01/, Thai DNA confirmed that implementation of this PoA would contribute to the sustainable development of Thailand (host country for this PoA)



Bureau Veritas Certification considers the letters are in accordance with paragraphs 45 - 48 of the VVM.

### 3.2 Participation (54)

The participation for each project participant has been approved by a Party of the Kyoto Protocol.

As result of validation process provided in section 1 (Approval) and section 2 (Participation) of Appendix A in this present report, the validation team concluded this by means of the following:

- The Letter of Approval (LoA) reference number TGO No.02/517 issued by Thailand Greenhouse Gas Management Organization (Public Organization) dated 25/05/2012 (Ref /01/) issued for GRT Energy Co., Ltd.
- The Letter clarifying the approval of GRT Energy Co., Ltd. as Coordinating/Managing Entity for this PoA project.(Ref /02/)
- The Letter of Approval (LoA) reference number 880-12-3998 issued by Swedish Energy Agency acted as Sweden DNA dated on 18/06/2012 (Ref /03/) issued for Tricorona Carbon Asset Management Pte Ltd.
- The UNFCCC website (Ref /12/) was assessed and confirmed that The Kingdom of Thailand and Sweden have ratified the Kyoto Protocol on 9 July 2003, which is consistent with LoA statements.

### 3.3 Project design document (57)

Validation team reviewed webhosted PDD against objective evidence found by validation during onsite visit. There is issue regarding PoA start date specified webhosted PDD, validation team had raised CL06 for clarification on how this date was determined. At 7<sup>th</sup> response from project participant, validation team agreed that the issue was involving with three (3) items as follow;

- (a) PoA Start Date
- (b) PoA Start Date of crediting period
- (c) 1<sup>st</sup> CPA Start Date

Based on the latest forms of Small-Scale Programme of Activities Design Document (CDM-SSC-PoA-DD), it's found that there is no clear explanation on what is specific data required to fill-in section B.1 of the PoA-DD whether item (a) PoA start date, or item (b) PoA start date of crediting period, or item (c) 1<sup>st</sup> CPA start date are mandatory. In connection to this unclear requirement, the project participant had made revision to section B.1 of the final version of PoA-DD (Ref /5A/) indicating that item (b) PoA start date of crediting period is 01/02/2013 and item (c) 1<sup>st</sup> CPA start date is 30/01/2013, and item (a) 'PoA start date' is



25/01/2012. In addition to item (a), this PoA start date was also incorporated into one of the eligibility criteria for inclusion of CPAs, at which only CPA start date after first date of PoA publication for global stakeholder consultation (i.e., 25/01/2012) is eligible.

To validate these revisions, validation team validated the item (c) 1<sup>st</sup> CPA start date of crediting period at 30/01/2013 (see detail in CL06 of Table 3, appendix A) against technical proposal (Ref /11/) prepared by ETDE and BOUYGUES-THAI that the EPC signature date is expected at 30/01/2013, validation team found this expected date in ref /11/ and confirmed that this is in line with the PP's justification. For case of the item (b) PoA start date of crediting period at 01/02/2013, the justification from PP is that this is earliest estimation date when 1<sup>st</sup> CPA can be included in the PoA, validation team considered this justification and agreed that the justification of first date of crediting period, is reasonable and based on reliable sources. Finally, item (a) 'PoA start date at 25/01/2012 was validated against UNFCCC website (<http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/YNCLZL2NNJGIWK5UTMX4AS747JPWXZ/view.html>) and found that the date 25/01/2012 is the first date of publication for global stakeholder consultation which is in line with the revision, therefore, the PoA start date is confirmed.

Validation team satisfied with the revision and CL06 is closed.

Combined with positive validation finding provided in section 3 (Project design document) of Appendix A to this present report, the validation team hereby confirms that the PoA-DD version 4.0 (Ref /5A/), generic CPA-DD version 4.0 (Ref /6A/ and a specific CPA-DD version 04 (Ref /7A/) (i.e., CPA - 001) comply with the latest forms of Small-Scale Programme of Activities Design Document (CDM-SSC-PoA-DD) and Small-Scale Programme Activity Design Document (CDM-SSC-CPA-DD).

### 3.3.1 Specific PoA Requirements (167)

#### (a) Eligibility Criteria for Enrolling CPA

According to the EB60 Annex 26 "Clarifications regarding the 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 01)", a full additionality assessment is not required in the context of component project activities (CPA). Instead, the confirmation of additionality for CPAs should be concluded by means of the eligibility criteria. Validation team took note on this decision and performed validation with special emphasizing on "eligibility criteria" as provided in following detail.



As Coordinating/Managing Entity (CME) for this PoA project, GRT Energy Co., Ltd. has clearly established the 12 eligibility criteria, including description on suggested evidence/supporting document for inclusion of future projects as a CPA under this PoA. These are described in section A.4.2.2 of PoA-DD. The validation of the eligibility criteria was done by the validation team and the conclusion is given as follows:

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
a	The SSC-CPA should have its project site located in Thailand and the electricity generated shall be fed to the Thai National Grid.	Power purchase agreements (PPA)

Validation team rechecked the statement in the criteria above and found this is in line with the description in section A.4.2. that all CPA shall supply electricity to the Thai national grid. In addition, this statement had been checked with AMS-I.D version 17 and found that this statement is in line with applied methodology. Combined with signed PPA submitted to validation team as part of the validation of one specific case (i.e. CPA – 001, see detail in CPA validation report), validation team confirmed that the PPA is suitable to represent the fact that the CPA would supply electricity to the Thai National Grid.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
b	The SSC-CPA shall be uniquely identified and defined by way of the unique identifying numbers (serial numbers) and GPS coordinates attached to each Solar PV installation, to ensure that all CPAs under this PoA are neither registered as an individual CDM project activity nor included in another registered PoA.	Feasibility Study report / site GPS coordinates

According to description provided in criterion above, validation team cross-checked this description against section A.4.4.1 of the PoA-DD and document entitled “GRT PoA Management System” version 02 dated on November 2012 (Ref /09/) and found that data from any CPAs would be collected with uniquely GPS coordinate number ensuring that CPAs would neither registered as an individual CDM project activity nor

included in another registered PoA. Validation team agreed that unique GPS and/or feasibility study report is sufficient to provide detail on location of CPAs. This is accepted.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
c	The SSC-CPA shall generate electricity using solar photo-voltaic (PV) technology (including but not limited to thin film and crystalline technology). The technology should comply with national regulatory standards of Thailand.	Feasibility Study Report (FSR) / Panel Specification sheet / Project technical design documentation.

Validation team validated the statement above against description in section A.4.2 of the PoA-DD and found this description is agreed well with the nature of this PoA. Validation team also received the FSR prepared for inclusion of CPA-001 (see detail in CPA validation report) and found that the FSR is appropriate to provide sufficient detail of Solar PV technology for inclusion of CPAs. This is accepted.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
d	Confirmation that the start date of a CPA is not, or will not be, prior to the commencement of validation of the programme of activities, i.e., the date on which the CDM-POA-DD is first published for global stakeholder consultation.	EPC contract or panel supply contract will be used as evidence of starting date of a CPA. Only CPAs for which the EPC contract or panel supply contract is signed after 25 <sup>th</sup> January 2012 can be included in the PoA.

Validation team raised CL03 (detail in appendix A) requested clarification on suitability of suggested evidence/supporting document that will be used to support this criterion. At 6<sup>st</sup> response, project participant revised that “*EPC contract or panel supply contract will be used as evidence of starting date of a CPA. Only CPAs for which the EPC contract or panel supply contract is signed after 25<sup>th</sup> January 2012 can be included in the PoA*” Validation team validated the date “25<sup>th</sup> January 2012” against UNFCCC website and found that this is the date at which this PoA project had been published for global stakeholder consultation. Therefore, only the EPC contract or panel supply contract having the date after 25<sup>th</sup> January 2012 is eligible to confirm start date of any future CPAs, this revised statement in criterion (d) is accepted.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
e	<p>The SSC-CPA shall comply with the applicability criteria of the methodology <i>AMS.I.D- Grid connected renewable electricity generation, version - 17.0</i>.</p> <p>The SSC-CPA shall comply with each of the criterion below, as applicable:</p> <ul style="list-style-type: none"> <li>• Shall not be a combined heat and power (co-generation) system;</li> <li>• Capacity limits: the CPA in aggregate shall not exceed 15MW installed capacity. This applies for Greenfield as well as capacity addition projects.               <ul style="list-style-type: none"> <li>○ For CPAs that are greenfield projects, the installed capacity of the CPA shall not exceed 15 MW throughout the CPA's crediting period</li> <li>○ For CPAs that involve capacity additions, the added capacity of the units in the CPA shall not exceed 15 MW throughout the CPA's crediting period and should be physically distinct from the existing units.</li> </ul> </li> </ul>	FSR and EPC/panel supply contract/purchase order specifying the installed capacity and confirming that the proposed project is not a combined heat and power project.

According to original statement in criterion (e) indicated in webhosted PoA-DD, validation team raised CL03 and CL17 (see detail in appendix A) for clarification on the “suggested evidence/supporting documents” and how this would be definitely avoid erroneous inclusion. At 3<sup>rd</sup> response, validation team agreed on the revision that “*FSR and EPC/panel supply contract/purchase order specifying the installed capacity and confirming that the proposed project is not a combined heat and power project.*” Validation team rechecked this description against





section A.4.2. of the PoA-DD and found that this is in line with description provided. In addition, validation team validated FSR given as document for validation of CPA-001 (validated in parallel with this PoA) and found that the FSR able to provide sufficient information for inclusion of any future CPAs as long as it's in combination with signed Engineering and Procurement contract (EPC). As long as the defined evidences stating the installed capacity, it's confirmed that either of these following documents are able to provide sufficient data for inclusion of any future CPAs,

- Feasibility Report (FSR) and Engineering and Procurement Contract (EPC),
- Panel Supply contract, or
- Purchase Order

The statement that the combined heat and power (co-generation) system is not applicable under this PoA had been validated against AMS-I.D version 17 and found this is in line with the methodology. In the same way, these following statements had been validated against AMS-I.D version 17 and found these are in line with the methodology.

- For CPAs that are greenfield projects, the installed capacity of the CPA shall not exceed 15 MW throughout the CPA's crediting period
- For CPAs that involve capacity additions, the added capacity of the units in the CPA shall not exceed 15 MW throughout the CPA's crediting period and should be physically distinct from the existing units.

This is accepted and CL03 and CL17 were closed.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
f	<p>The SSC-CPA should comply with the requirements stated in the generic CPA-DD for the following:</p> <ul style="list-style-type: none"> <li>• Stakeholder consultation</li> <li>• Assessment of environmental impacts if any and as required by national regulations</li> </ul>	<p>For Stakeholder consultation: Minutes of the meeting;</p> <p>For Environmental Impacts:</p> <p>GPS coordinates of the CPA site location cross-checked against the list of designated watershed protected areas; Land Title Deed;</p> <p>Environmental Impact Assessment Report or equivalent if required by national regulations.</p>

Validation team assessed the statement in eligibility criterion above against the list of watershed area (Ref /13/) and watershed area map (Ref /14/) and found that the requirement to check whether or not the



location of any future CPAs located in restricted watershed area in Thailand, these procedures are sound and reasonable. This is procedure to cross-checked the needs in conducting full Environmental Impact Assessment (EIA) report. Validation team held positive opinion that these following evidences are reliable to support criteria (f) as following;

- Minutes of the meeting,
- GPS coordinates of the CPA site location cross-checked against the list of designated watershed protected areas,
- Land Title Deed,
- Environmental Impact Assessment Report or equivalent if required by national regulations.

These are accepted.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
g	<p>The SSC-CPA shall undergo a de-bundling check as follows:</p> <p>A proposed small-scale CPA of a PoA shall be deemed to be a de-bundled component of a large scale activity if there is already an activity which satisfies both conditions (a) and (b) below:</p> <ol style="list-style-type: none"> <li>1. Has the same activity implementer as the proposed small scale CPA or has a coordinating managing entity, which also manages a large scale PoA of the same technology/measure, and;</li> <li>2. The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point.</li> </ol> <p>However, if the total size of such a CPA combined with a registered small-scale CPA of a PoA does not exceed an installed capacity of 15MW, then the proposed SSC CPA is not considered to be a debundled component of a large-scale activity.</p>	<p>CPA-CME contract confirming that SSC-CPA is not a debundled component of any other large scale project activity; check against Thai Solar Database</p>



Validation team assessed the statement in criteria (g) above against EB54 Annex13 “*Guidelines on Assessment of Debundling for SSC Project Activities*” and found this is in line with the guideline. Validation team held positive opinion that CPA-CME contract confirming that SSC-CPA is not a de-bundled component of any other large scale project activity and requirement to check against Thai Solar Database are sound and reasonable. In addition to that, validation team also held positive opinion to Thai Solar Database maintained by C/ME that will be used as reference to debundling check (see detail below). This is sufficient to avoid fragmented of large scale PoA or large scale CDM project activities included in this PoA. This is accepted.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
h	Conditions to provide an affirmation that funding from Annex I parties, if any, do not result in a diversion of official development assistance.	CPA-CME contract confirming that no ODA has been diverted.

Validation team assessed the requirements laid out by eligibility criteria (h) above against *Guidelines for completing the CDM-PDD* at EB 41, Annex 12 and found that this is in line with the guideline. To support this eligibility criterion, validation team held positive opinion towards the needs to obtain CPA-CME contract confirming that no ODA has been diverted. This is accepted.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
i	All the SSC-CPA owners shall formally/legally own the land/ rooftops, on which the SSC-CPA is going to be installed, or rent the land/ rooftops from the legal owners.	Land or rooftop lease/ownership agreements.

Validation team evaluated the statement in this criterion above and found that requirement to obtain land or rooftop lease/ownership agreements are suitable to confirm eligibility in criteria (i). Validation team also agreed that CPA owner shall formally/legally own the land or rooftop in order to legally operate the activity under Thai’s Law. This is reasonable and accepted.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
j	The SSC-CPA owners shall have a business license or should have been legally registered to conduct business in Thailand.	Company business license

Validation team assessed the statement in criterion (j) above and found that the requirement for CPA owner to obtain business license is reasonable and sound. Validation team confirmed that 'Company business license' is suitable to confirm the eligibility for this criterion.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
k	Contractual provisions should be in place to ensure that those operating the CPA are aware of, and have agreed, that their activity is being subscribed to the PoA.	CPA-CME contract.

Validation team assessed the description above that contractual provision should be in place to ensure that those operating the CPA aware of, and have agreed, that their activity is being subscribed to this PoA. Combined with CPA-CME contract used as evidence to support this criterion, validation team held positive opinion towards this statement in criterion (k). This is sound and reasonable.

No	Eligibility Criteria for the inclusion of CPAs	Suggested Evidence/ Supporting Document
l	Project activities that involve the transfer of equipment such as panels or inverters from other existing operational projects shall not be eligible for inclusion in this PoA.	Statement in the CPA-CME contract

Validation team had evaluated the statement above in criterion (l) against AMS-I.D version 17 and found that the leakage is to be considered in case energy generating equipment is transferred from another activity. The exclusion of project activities that involved the transfer of equipment from other existing operational project is in line with methodology. The requirement to obtain CPA-CME confirming there



is no involvement of equipment transfer in CPAs is reasonable. This criterion is accepted.

### **(b) Operational and Management Arrangements for the PoA (166)**

As per indicated section A.4.4.1 of the PoA-DD, validation team validated the validity on status of legal entity under the laws of Thailand against submitted company registration document (Ref /15/) and found that the “GRT Energy Company Limited” is registered under Thai Law on 16 December 2010 with approval from Ministry of Commerce - reference number Sor Jor 2041115. Combined with GRT’s office visit on 24/03/2012, validation team interviewed the authorized personnel, Mr. Piroon Shinawatra (CEO of GRT Energy Co., Ltd), as shown in ref/16/, and has no doubt regarding the authenticity of presented documents.

#### *(i) A record keeping and documentation control system for each CPA under the PoA*

With interview session with Mr. Piroon Shinawatra (CEO of GRT Energy Co., Ltd.) and Mr. Angus McEwin (representative of Biosphere Capital Pte Ltd) at GRT Energy’s office on 24/03/2012, the description of “*GRT Energy Small Scale Solar PV (PoA) – Programme of Activities (PoA) Management System*” (Ref /08/) and Thai solar database were shown during validation team visit. It’s confirmed that these following information would be electronically archived:

- Name of its owner
- Location of the installation (geographic coordinates)
- Installation date
- Supplier and type
- Serial number (CPA-XXX format)
- Scale (MW capacity)
- Contractual arrangements clearly ascribing the CERs generated by the CPA to the CME
- Name of the CPA to which the installation is included

Combined with objective evidence during GRT’s office visit, it found that the database is well prepared. It’s confirmed that Thai Solar database contained necessary information.

#### *(ii) A system/procedure to avoid double accounting*

An interview session with CEO of GRT Energy Co., Ltd. (Mr Piroon) and representative of Biosphere Capital (Mr Angus) on 24/03/2012, combined with



inspection of “*Thai Solar*” database during CCME office visit, validation team was convinced that the following procedures will be implemented:

- a) All CPAs will be uniquely identified with serial number,
- b) The CPAs will be included under one PoA only once to avoid double counting

(iii) A system/procedure to ensure that the SSC CPA included in the PoA is not a de-bundled component of another CDM programme activity or another CDM project activity

As per description in section A.4.4.1 of the PoA-DD, validation team validated the following statements against “*Guideline on Assessment of De-bundling for SSC Project Activities, version 3 (EB54, annex 13)*” and this is in line with this EB’s decision.

“...there is no activity yet which:

- a) *Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same technology/measure;*  
**AND**
- b) *Has boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point... ”*

Validation team reviewed document “*GRT Energy Small Scale Solar PV (PoA) – Programme of Activities (PoA) Management System*” (Ref /08/) and found that there is well-established guideline to assist GRT Energy Co., Ltd. to perform the de-bundling check. It is confirmed that the procedures indicated in point (iii) section A.4.4.1 of the PoA-DD would be implemented and that validation team held positive opinion on this issue.

(iv) Provision to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA

As per detail in point (iv), the CPA owner shall enter into a contractual arrangement with GRT Energy Co., Ltd. (C/ME) on the following procedures:

“..The C/ME will sign CPA/CME agreement with each CPA owner which will include the agreement of the CPA owners to ascribe the CERs generated by their CPAs to the CME..”

Validation team reviewed document “*GRT Energy Small Scale Solar PV (PoA) – Programme of Activities (PoA) Management System*” (Ref /08/) and found that there is well-established guideline to assist GRT Energy Co., Ltd. in order to conduct CME/CPA agreement with CPA owners. Hence validation team has a positive opinion on this issue.

To be in line with EB63 Annex3, table below demonstrated compliance of this PoA to the EB's decision, validation team had validated and provided the opinion below;

#	Requirement	Compliance	Validation Team's Opinion
1	Clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies made available to the DOE at the time of validation of the PoA;	GRT Energy Co., Ltd (GRT) will be the CME, Biosphere Capital will be the CDM consultant and Tricorona Carbon Asset Management (Tricorona) will be the CER buyer. Their roles and responsibilities are explained in detailed in SD_5-GRT_POA MANAGEMENT SYSTEM THAILAND_02APR2011 , Page 3, Para 1.2. (Ref /09/)	With reference to ref /09/, validation team confirmed that there is clear definition of role and responsibility of personnel involved in the CPA inclusion process.  This is in compliance with EB63 Annex3.
2	Records of arrangements for training and capacity development for personnel made available to the DOE at the time of validation of the PoA;	There will be two types of training conducted for the PoA, for two different purposes, namely: PoA level and CPA level training. Capacity development will include opportunities like industry events, workshops etc. It is further elaborated in SD_5-GRT_POA MANAGEMENT SYSTEM THAILAND_02APR2011, page 7, Para 2 (Ref /09/)	With reference to ref /09/, validation team confirmed that there are two types of training which are PoA and CPA level will be conducted by C/ME for capacity development.  This is in compliance with EB63 Annex3.
3	Procedures for technical review of inclusion of CPAs made available to the DOE at the time of validation of the PoA;	A procedure for technical review of inclusion of CPAs involves three steps, namely: 1) Data collection, 2) Data analysis, 3) Outcome. These steps are further elaborated in SD_5-GRT_POA MANAGEMENT SYSTEM THAILAND_02APR2011, page 9, para-4 (Ref /09/)	With reference to ref /09/, validation team confirmed that there are well-established procedures for technical of inclusion of CPAs.  This is in compliance with EB63 Annex3.
4	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);	The CME will create a "Thai Solar database", which will include the name, size/scale, owner, location, commissioning and CDM status of all grid-connected solar projects in Thailand. The Thai Solar database will be cross checked against the CDM database and the PEA	With reference to ref /09/, validation team confirmed that there are well-prepared Thai Solar database creating for avoiding of double counting.  This is in compliance with EB63 Annex3.

		database for the Very small power producers (VSPPs). This is further elaborated in SD_5-GRT_POA MANAGEMENT SYSTEM THAILAND_02APR2011, page-11, para-5. (Ref /09/)	
5	Records and documentation control process for each CPA under the PoA, made available to the DOE at the time of request for inclusion of the CPA;	The CPA details, Monitoring data and CER issuance data will be archived for a period of two years after the expiration of the PoA crediting period. The documentation control process is further explained in SD_5-GRT_POA MANAGEMENT SYSTEM THAILAND_02APR2011, page 12, para-8. (Ref /09/)	With reference to ref /09/, validation team confirmed that there are clear guidance in monitoring and CER issuing of data confirming that there will be two years period of data archiving after end of crediting period.  This is in compliance with EB63 Annex3.
6	Measures for continual improvements of the PoA management made available to the DOE at the time of validation of the PoA	Continual improvements will be done by checking monitored data, using complaints/queries register etc. It is further elaborated in SD_5-GRT_POA MANAGEMENT SYSTEM THAILAND_02APR2011, Page14, para-9. (Ref /09/)	With reference to ref /09/, validation team confirmed that there is commitment for continual improvement through checking of monitored data, complaints or queries.  This is in compliance with EB63 Annex3.
7	Any other relevant elements	N/A	N/A

### (c) Validation of the one real case (CPA-001) applied along with this PoA (168)

In parallel with validation of this PoA project, project participant had submitted one “*real case*” entitle “*GRT Energy Small Scale Solar PV (PoA) - CPA-001*”. This CPA-001 is located in Wang Khonkwang sub-district, Khok Sumrong district, Lopburi province - Thailand. The CPA-001 project entails the installation of Solar PV panel to produce electricity, and then, supply to Thai National Grid.

Validation team held positive opinion towards application of CPA-001 under this PoA project. Detail of validation had provided in another CPA validation report.

### 3.4 Changes in the PoA Project Activity

During the site visit on 23/032012, no changes in the project was observed as compared to details described in webhosted PoA-DD.





However, due to CARs/CLs raised at validation process, hence there are changes involved elaboration and correction to the PoA-DD as per the questions raised by validation team.

The most significant change is related to the more elaborate description of eligibility criteria for inclusion of CPAs. The final PoA-DD version 4.0 has the following changes as compared to webhosted PoA-DD version 1.0:

- 1) Section A.4.2.1
  - More elaboration on description of bundle project activities.
- 2) Section A.4.2.2.
  - Revision of “eligibility criteria” and “suggested evidence/supporting document” for criteria (a) to (l)
- 3) Section A.4.4.1
  - More elaboration on C/ME’s management system.
- 4) Section B.1
  - Revision in Starting date of the PoA and first CPA-001
- 5) Section C.1
  - Explanation on the case of CPA that needs full EIA study
- 6) Section C.3
  - Specific condition for the CPA that needs full EIA study
- 7) Section E.6.2
  - Revision on how to calculate Thai Grid Emission Factor
- 8) Section E.6.3
  - Revision in description of required reporting parameters has been added
- 12) Section D.7.1
  - Revision of description on required monitoring parameters has been added

### **3.5 PoA project description (64)**

A typical CPA under the current PoA project comprises of either a single project activity or a bundle of project activities. The project activity would be newly-built Solar PV power plants with a maximum installed capacity up to 15 MW per CPA, including capacity expansions at existing facilities. Such plants shall be constructed by one or more third-party project owners and generate electricity from solar resources. The electricity generated will be supplied to the national Thailand electricity grid.

Solar PV power plants will generate electricity by converting solar radiation into direct current electricity using semiconductors that exhibit photovoltaic effects. CPAs will consist of an array of solar panels or PV modules (composed of a number of cells containing photovoltaic material) as well as mechanical and electrical connections and means of regulating and/or modifying the electrical output, in order to be able to export electricity to the national grid. Sending electricity to the grid requires transformation of DC into AC by an inverter which will be connected to the grid at the sub-station and shall not exceed the installed capacity of 15 MW.

The solar panels will typically, but not necessarily, be installed on the ground (either on rented or owned space) and connected to the grid. Some of the installations may be installed on the rooftops (either on rented or owned space) and connected to the grid.

The validation team hereby confirms that the project description in PoA-DD is accurate and complete in all respects and that there are no negative significant changes to the project activity/design or boundary as compared to the webhosted PoA-DD.

### 3.6 Baseline and monitoring methodology

#### 3.6.1 General requirement (76-77)

The steps taken to assess the relevant information contained in the PoA-DD against each applicability condition are described below.

Validation team validated justification of eligibility criteria for inclusion of CPA against AMS-I.D version 17 as follows:

Applicability of AMS-I.D	The PoA Project Eligibility	Means of Validation
<p>1. This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass:</p> <p>(a) Supplying electricity to a national or a regional grid; or</p> <p>(b) Supplying electricity to an identified consumer facility via national/regional grid</p>	<p>All the CPAs to be included in the current PoA are solar photovoltaic projects that will supply electricity to the national grid.</p>	<p>Validation team cross-checked the eligibility criteria set out in section A.4.2.2 of the PoA-DD and found that the criterion restricted only for CPA with Solar PV technology supplying electricity to Thai national grid will be included in this PoA project.</p> <p>This is compliance with AMS-I.D.</p>



through a contractual arrangement such as wheeling.		
2. Illustration of respective situations under which each of the methodology (i.e. AMS-I.D, AMS-I.F and AMS-I.A) applies is included in Table 2.	The current PoA aims to promote project activities that supplies electricity to national/regional grid.	With reference to description of Solar PV power plant and its eligibility criteria that all CPAs have to be connected to the grid and supply electricity to Thai national grid. This applicability was taken into account of this PoA project and defined in eligibility criteria (a)  Their justification to follow AMS-I.D is correct.
3. This methodology is applicable to project activities that: (a) install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	The project activities (CPAs) could include: <ul style="list-style-type: none"> <li>A new Solar PV power plant at a site where there are no renewable energy power plants operating prior to the implementation of the project activity (Greenfield plant)</li> <li>Projects that involve a capacity addition</li> </ul>	With reference to eligibility criteria (e), it is confirmed that CPAs implemented under a "Greenfield" scenario and capacity addition are eligible under this PoA, which is in line with AMS-I.D applicability.  This is accepted.
4. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: <ul style="list-style-type: none"> <li>The project activity is implemented in an existing reservoir with no change in the volume of reservoir;</li> <li>The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the</li> </ul>	Only small scale grid connected solar PV projects are eligible, projects using hydro power technology are not eligible or applicable	This is in line with eligibility criteria (a) defined in Section A.4.2.2 of the PoA DD, whereas only CPAs with Solar PV technology that satisfy conditions of AMS-I.D paragraph 4, are eligible under the PoA.  This is in accordance with AMS-I.D applicability requirement.



<p>project activity, as per definitions given in the project emissions section, is greater than 4 W/m<sup>2</sup>;</p> <ul style="list-style-type: none"> <li>The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m<sup>2</sup>.</li> </ul>		
<p>5. If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component.</p> <p>If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.</p>	<p>All the CPAs have only a renewable component as a Solar PV installation.</p>	<p>Validation team validated eligibility criteria (a) against AMS-I.D paragraph (5) and found that only project activities that employed Solar PV installation is eligible under the PoA.</p> <p>This is in line with methodology.</p>
<p>6. Combined heat and power (co-generation) systems are not eligible under this category.</p>	<p>The project activities under the PoA are not a combined heat and power project.</p>	<p>With reference to eligibility criterion (e), validation team validated it against AMS-I.D paragraph 6 and found that combined heat and power (co-generation) is not eligible under the PoA.</p> <p>This is in line with the methodology.</p>
<p>7. In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.</p>	<p>For CPAs that involve a capacity addition to (an) existing plant(s), the added capacity of the units added by the project shall not exceed 15MW and will be physically distinct from the existing units</p>	<p>Validation team validated eligibility criterion (e) defined in Section A.4.2.2 of this PoA-DD, and found that this criterion is in line with the methodology that CPA involved capacity addition exceeding 15 MW is not eligible under the PoA.</p> <p>This is in line with the methodology.</p>



8. In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	The PoA will not include retrofit or replacement projects	<p>The eligibility criterion (e) has been validated against paragraph 8 of AMS-I.D and found that this is in line with methodology. The CPA involving retrofit or replacement is not eligible under the PoA.</p> <p>This is in line with the methodology.</p>
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Validation team also validated specific requirement for Project Activities under a Programme of Activities stipulated in paragraph 25-27 of AMS-I.D version 17 as follow.

Specific condition of AMS-I.D towards project activities under PoA	Means of Validation/ Validation team's opinion
Paragraph 25: In the specific case of biomass project activities the applicability of the methodology is limited to either project activities that use biomass residues only or biomass from dedicated plantation complying with the applicability condition of AM0042	<p>With reference to section A.4.2.2, this PoA project set out eligibility criteria that only CPA employing Solar PV technology is eligible for inclusion in the PoA <u>not</u> biomass project</p> <p>This paragraph is not applicable to this PoA project.</p>
Paragraph 26: In the specific case of biomass project activities the determination of leakage shall be done following the general guidance for leakage in small-scale biomass project activities (attachment C of Appendix B of simplified modalities and procedures for small-scale clean development mechanism project activities; decision 4/CMP.1) or following the procedures included in the leakage section of AM0042.	<p>With reference to section A.4.2.2, this PoA project set out eligibility criteria that only CPA employing Solar PV technology is eligible for inclusion in the PoA <u>not</u> biomass project.</p> <p>This paragraph is not applicable to this PoA project.</p>
Paragraph 27: In case the project activity involves the replacement of equipment, and the leakage from the use of the replaced equipment in another activity is neglected because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this	<p>With reference to section A.4.2.2, this PoA project set out eligibility criteria that CPA involving equipment transfer from other project activity is <u>not</u> eligible for inclusion in the PoA.</p> <p>This paragraph is not applicable to this PoA project.</p>



<p>purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified.</p>	
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The validation team hereby confirms that the selected AMS-I.D version 17 “*Grid-connected renewable electricity generation*” is previously approved by the CDM Executive Board, and is applicable to this programme of activity (PoA), which complies with all the applicability conditions therein.

The validation team hereby also confirms that, if the proposed PoA project is implemented in accordance with PoA-DD, it's expected that there would be no greenhouse gas emissions occurring within the proposed PoA project's boundary, which are expected to contribute more than 1 per cent of the overall expected average annual emissions reductions, which are not addressed by the applied methodology (i.e., AMS-I.D version 17).

### 3.6.2 Project boundary (80)

The validation team validated the project boundary by these following steps:

#### a) Document reviewed

Validation team cross-checked eligibility criterion (a) against description in section A.4.1 of the PoA-DD and confirmed that only CPA having location within the geographical boundary of Thailand is eligible under this PoA.

As per section E.3 of the PoA-DD, validation team assessed description of GHG sources and gases included in the boundary as following;

Source		Gas	Included?	Justification / Explanation	Validation Team's Opinion
Baseline	CO <sub>2</sub> emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO <sub>2</sub>	Yes	Main emission source	The justification that CO <sub>2</sub> emission is included as baseline emission sources is in line with AMS-I.D version 17.  This is accepted.
		CH <sub>4</sub>	No	Minor emission source	The justification that CH <sub>4</sub> emission is excluded from baseline emission sources is in line with AMS-I.D version 17.  This is accepted.
		N <sub>2</sub> O	No	Minor emission source	The justification that N <sub>2</sub> O emission is excluded as baseline emission sources is in line with AMS-I.D version 17.  This is accepted.
Project activity	For geothermal power plants, fugitive emissions of CH <sub>4</sub> and CO <sub>2</sub> from non-condensable gases contained in geothermal steam	CO <sub>2</sub>	No	N.A.	N.A.
		CH <sub>4</sub>	No	N.A.	N.A.
		N <sub>2</sub> O	No	N.A.	N.A.
	CO <sub>2</sub> emissions from combustion of fossil fuels for electricity generation in geothermal power plants	CO <sub>2</sub>	No	N.A.	N.A.
		CH <sub>4</sub>	No	N.A.	N.A.
		N <sub>2</sub> O	No	N.A.	N.A.
	For hydro power plants, emissions of CH <sub>4</sub> from the reservoir	CO <sub>2</sub>	No	N.A.	N.A.
		CH <sub>4</sub>	No	N.A.	N.A.
		N <sub>2</sub> O	No	N.A.	N.A.



***b) Interview session with GRT Energy Company Limited (C/ME)***

Validation team conducted interview session with Mr. Piroon Shinawatra (CEO of GRT Energy Co., Ltd., as Coordinating/Managing Entity for this PoA), examined evidence found in the office, such as initial project detail for next CPA inclusion and document of “*GRT Energy Small-Scale Solar PV (PoA) – Programme of Activities (PoA) Management System*” version 01 dated on November 2011” (Ref /08/), and confirmed that eligible CPAs would be located only within the boundary of Thailand and GHG sources and gases are appropriately taken into account.

***c) First CPA onsite inspection (i.e., CPA-001)***

The onsite inspection of first CPA (CPA-001) was conducted on 23/03/2012, this is being validated as one “*real case*” in parallel with this PoA project. It was confirmed that the location of first CPA (CPA-001) is located within the geographical boundary of Thailand. This is in line with eligibility criterion (a) and “*GRT Energy Small-Scale Solar PV (PoA) – Programme of Activities (PoA) Management System*” version 01 dated on November 2011” (Ref /08/) laid out by C/ME. It’s also confirmed that “*Electricity grid*” as defined as “*Baseline Scenario*” for Solar PV technology was correctly applied and inclusion of CO<sub>2</sub> as GHG sources and gases are in line with description laid out in section E.3 of the PoA-DD.

Based on the above assessment, validation team confirmed that the identified boundary and the selected sources and gases are reasonable justified for this PoA project.

### **3.6.3 Baseline identification (87-88)**

The steps taken to assess the requirement given in paragraphs 81 and 82 of the VVM are described below:

***(a) Document reviewed***

Validation team cross-checked eligibility criterion (a) laid out in section A.4.2.2 of the PoA-DD and found that this criterion allows only grid-connected Solar PV power plant supplying electricity to the Thai national grid, to be included in this PoA project. This description is line with section E.4 of the PoA-DD, indicating as following;

*“..baseline scenario is the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plant and by the addition of new generation sources into the grid...”*

Validation team confirmed that the statement above is in line with paragraph 10 of AMS-I.D version 17. In addition, validation team validated Power Purchase Agreement (PPA) (Ref /17/) to confirm its





claim on “*grid-connected*” as baseline identification of the PoA and found that this CPA-001 got into contract with Provincial Electric Authority (PEA) under VSPP scheme. With reference to “*Regulation for the Purchase of Power from Very Small Power Producers*” (Ref /18/) and a document entitled “*Thailand’s Approach to Promoting Clean Energy in the Electricity Sector*” (Ref /19/), it is confirmed that all eligible CPA under this PoA shall be “*connected*” to Thai national grid under the “*Very Small Power Producer (VSPP)*” scheme. The ref/17/ also supports the concept of “*VSPP*”, which states that project activity (i.e. CPAs) under this PoA shall be connected to Thai national grid. This is in line with eligibility criterion (a) which states that the CPA will supply electricity to national grid.

Validation team confirmed that the identification with reference to paragraph 10 of AMS-I.D version 17 is correct.

As per statement in section E.4 of the PoA-DD, validation team assessed the following baseline scenario description of the PoA and found it is in line with paragraph 11 of AMS-I.D version 17;

*(b) Interview session with GRT Energy (C/ME) and Biosphere Capital (CDM consultant)*

The interview session was conducted on 24/03/2012 at GRT Energy’s office with participation of Mr. Angus McEwin (representative of Biosphere Capital) at the meeting. With interview results regarding identification of baseline scenario and supporting evidence found at GRT Energy’s office, validation team confirmed that they are aware of the “*grid-connected*” issue and their identification of baseline is correctly in line with AMS-I.D version 17 paragraph 10.

Based on the above assessment, the validation team hereby confirms that:

- (a) All the assumptions and data used by the project participants are listed in the PoA-DD, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA-DD;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PoA-DD;
- (e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

### 3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)

The steps taken to assess the requirement outlined in paragraph 89 of the VVM are described below:

#### **Baseline Emission**

As per description in section E.6.2 of the PoA-DD, the baseline emission is expressed as follows:

$$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$$

Where:

$BE_y$	Baseline emissions in year y (t CO <sub>2</sub> )
$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the Project Activity(ies) under the CPA in year y (MWh)
$EF_{CO_2,grid,y}$	CO <sub>2</sub> emission factor of the grid in year y (t CO <sub>2</sub> /MWh)

#### **(a) $BE_y$ : Baseline Emission in year y (t CO<sub>2</sub>)**

With reference to AMS-I.D version 17 paragraph 11, validation team confirmed that the expression of  $BE_y$  is correct.

#### **(b) $EG_{BL,y}$ : Quantity of net electricity supplied to the grid (MWh)**

With reference to AMS-I.D version 17 paragraph 11, validation team confirmed that the expression of  $EG_{BL,y}$  is correct.

#### **(c) $BE_{retrofit,CO_2,y}$ : Baseline emission for capacity addition**

With reference to AMS-I.D version 17 paragraph 15, validation team confirmed that the expression of  $BE_{retrofit,CO_2,y}$  is correct which expressed as follow:

$$BE_{retrofit,CO_2,y} = EG_{BL,retrofit,y} * EF_{CO_2,grid,y}$$

Where:

$$EG_{BL,retrofit,y} = 0 \text{ on / after } DATE_{BaselineRetrofit}$$

Where:





$EG_{BLretrofit}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year $y$ (MWh)
$EG_{PJfacility}$	Quantity of net electricity supplied to the grid by the project plant/unit in year $y$ (MWh)
$EG_{historica}$	<p>Annual average historical net electricity generation by the existing renewable energy plant that was operated at the project site prior to the implementation of the project activity (MWh)</p> <p>Average of historical net electrical energy levels delivered by the existing facility, spanning all data from the most recent available year (or month, week or other time period) to the time at which the facility was constructed, retrofit, or modified in a manner that significantly affected output (i.e. by 5% or more), shall be used.</p> <p>To determine <math>EG_{historica}</math>, project participants may choose between the following two historical periods (This allows some flexibility; the use of the longer time period may result in a lower standard deviation and the use of the shorter period may allow a better reflection of the (technical) circumstances observed during the more recent years).</p> <p>(a) The three last calendar years (five calendar years for hydro project) prior to the implementation of the project activity; or</p> <p>(b) The time period from the calendar year following <math>DATE_{hist}</math>, up to the last calendar year prior to the implementation of the project, as long as this time span includes at least three calendar years (five calendar years for hydro project), where <math>DATE_{hist}</math> is latest point in time between:</p> <p>(i) The commercial commissioning of the plant/unit;</p> <p>(ii) If applicable: the last capacity addition to the plant/unit; or</p> <p>(iii) If applicable: the last retrofit of the plant/unit</p>
$\sigma_{historical}$	Standard deviation of the annual average historical net electricity supplied to the grid by the existing renewable energy plant that was operated at the project site prior to the implementation of the project activity (MWh)
$DATE_{Baseline}$	Point in time when the existing equipment would need to be replaced in the absence of the project activity



(date)

(d)  $EF_{CO_2, grid, y}$  : CO<sub>2</sub> emission factor of the grid in year y (t CO<sub>2</sub>/MWh)

With regards to the “CO<sub>2</sub> emission factor of the grid,  $EF_{CO_2, grid, y}$ ” calculation laid out in section E.6.2 and annex 3 of the PoA-DD, project participant made reference and apply the publication of “Grid emission factor of Thailand” published by Thai DNA (Thailand Greenhouse Gas Management Organization – TGO) (Ref /1A/) dated on 30 December 2011 for determination of the grid emission factor.

To validate algorithm and formulae used in calculation of grid emission factor of Thailand, originally conducted by Thai DNA, validation team conducted a document review and interview session of key officers, from February to March 2012, which probed steps taken by TGO based on “Tool to calculate the emission factor for an electricity system, version 2.2.1”. The summary of document review and key discussion topics with TGO are described below<sup>1</sup>:

**Step 1: Identify the relevant electricity system**

In regard to “project electricity system”, validation team sought clarification from Mr. Rongphet Boonchaudee (TGO officer who is directly in charge of this calculation) on 13 February 2012. Based on interview results, it was found that TGO calculation is appropriate and follows directions from the tool. With reference to Mr. Rongphet, it was confirmed that Electricity Generating Authority of Thailand (EGAT) is considered as “project electricity system” due to the fact that the transmission lines regulated by EGAT are networked throughout Thailand’s boundary.

As of 16 March 2012, validation team sought clarification from Dr. Chaiwat Muncharoen, Deputy Executive Director, in regard to definition of “connected electricity system” provided in the Thai DNA publication. Validation team concluded that there is a need to make changes in words representing “project electricity system” and “connected electricity system”. To make the right approach to the editorial changes, validation team reviewed all parameters and procedures used to calculate Thailand’s grid emission factor and found no any discrepancies associated to this editorial changes. It’s confirmed that the result from this calculation remains valid, the changes were only editorial.

The validation team sought clarification from Mr. Rongphet on 13 February 2012 and found that connected electricity system in TGO

<sup>1</sup> (see section 5e in appendix A for full validation protocol regarding Thai DNA publication)



calculation was defined from the amount of electricity supplied from neighbouring countries such as Lao PDR, etc. The amount of electricity had included “imported electricity” in the calculation spreadsheet. Based on evidence from the calculation spreadsheet (Ref /2A/), validation team cross-checked the term “*imported electricity*” and found this parameter was authentically taken into account, which is in agreement with the claims made by Mr. Rongphet.

### **Step 2: Choose whether to include off-grid power plants in the project electricity system**

With reference to description in Thai DNA publication (Ref /1A/), the option 1: Only grid power plants are included in the calculation. Validation team confirmed the correct application of this choice in the grid emission factor calculation.

### **Step 3: Select a method to determine the operating margin (OM)**

As indicated in page 3 of Thai DNA publication (Ref /1A/), the simple OM with ex ante option have been selected. With reference to calculation spreadsheet (Ref /2A/), the amount of low-cost/must-run power plants represents less than 50% of total grid emissions in Thailand. Validation team cross-checked this figure against what was reported in the Thai DNA publication and found that there is no discrepancy between these two sources.

An interview session with Dr. Chaiwat Muncharoen and Ms. Bongkoch Kittisompun was conducted on 16 March 2012 in order to validate the claimed figures. It was found that the figures shown in table 2 of Thai DNA publication and calculation spreadsheet are in agreement with each other and that there is no discrepancy. The sources of these data are all from EGAT, which is the only one state-owned electricity generation agency of Thailand. As a result of this procedure, validation team confirmed that the following figures are accurate:

Year of Data	Percentage of Low-cost/must-run
2010	4.74
2009	6.27
2008	6.28
2007	16.93
2006	14.89

### **Step 4: Calculate the operating margin emission factor according to the selected method**

$FC_{i..y}$



As indicated in table 3 of ref /1A/, validation team cross-checked these data during an interview session with Dr. Chaiwat and Ms. Bongkoch at TGO office on 16 March 2012. The raw data given by EGAT was made accessible for validation team validation. It was confirmed that “*amount of fossil fuel consumed by power plants*” in the year 2008-2010 is authentic. Validation team has no doubt of its authenticity and the accuracy of these data.

#### NCV<sub>i,y</sub>

Validation team cross-checked the net calorific value (NCV) in table 1 of ref /1A/ against value of NCV provided in ref /2A/, and found that there is no discrepancy between these two sources of data. The source of NCV was taken from reliable sources, which is from electric power in Thailand produced by Department of Alternative Energy Development and Efficiency (DEDE), Ministry of Energy Thailand.

#### EF<sub>CO2,i,y</sub>

Validation team cross-checked the reference provided in calculation spreadsheet (Ref /2A/) and found that it was correctly taken from table 1.4 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories, and determined that there is no discrepancy found in the calculation of this spreadsheet.

#### EG<sub>y</sub>

Validation team cross-checked data provided in table 2 of ref /1A/ against data shown in calculation spreadsheet (Ref /2B/) and found that there is no discrepancy in these two sources. It was confirmed by interview session with Dr. Chaiwat and Ms. Bongkoch at TGO office on 16 March 2012 that the quantity of electricity generated and transmitted to the national grid (confidential data) are authentically taken from EGAT. There is no discrepancy found for confidential data shown during interview session and ref /1A/ & ref /2A/.

### **Step 5: Calculate the build margin (BM) emission factor**

It's clearly defined in Thai DNA publication that option 1 (ex ante) was selected, however, validation team sought clarification from Mr. Rongphet via telephone interview on 17 February 2012 regarding how each figure in table 6 of publication was formulated. The clarification was made by Mr. Rongphet that the amount of electricity in table 6 was taken from EGAT, the only one state-owned electricity generating agency of Thailand. Validation team also conducted an interview session with

Dr. Chaiwat and Ms. Bongkoch on 16 March 2012 to confirm whether the recently-built power plant data were authentically taken from EGAT. Based on confidential data provided for validation during the session, it was confirmed that the data are authentic.

With further clarification by Mr. Rongphet on 17 February 2012 regarding CDM status Phu Kieaw Bio Power Project 2 and Dan Chang Bio Power Project 2, Mr. Rongphet clarified that these two power plants are not the same registered CDM project activities as appeared in CDM website. Validation team cross-checked these claims by accessing EGAT website (<http://www.egat.co.th/en/>) and found that these two power plants mentioned above were built in 2009 and are not the same project activities that appear on CDM website. Its correctness in the claim was, therefore, confirmed.

With reference to confidential data provided by Dr. Chaiwat and Ms. Bongkoch during an interview session at TGO office on 16 March 2012, the confidential data supported the fact that  $EG_{m,y}$  are authentically taken from EGAT. Its validity of data used in calculation of  $EG_{m,y}$  is confirmed.

#### **Step 6: Calculate the combined margin emission factor**

Validation team cross-checked table 10 of Thai DNA publication (Ref /1A/) against calculation spreadsheet (Ref /2A/) and found that there is no discrepancy between these two data sources. Its correctness in calculation of table 10 is confirmed as below:

Project Type	Emission Factor (tCO <sub>2</sub> /MWhr)		
	EF <sub>grid,OM</sub>	EF <sub>grid,BM</sub>	EF <sub>grid,CM</sub>
General Project	0.5996	0.4231	0.5113
Wind and solar	0.5996	0.4231	0.5554

#### **Project Emissions**

As per section E.6.1 of the PoA-DD that project emission from Solar PV power plant is zero. This is in line with paragraph 20-21 of AMS-I.D version 17.

#### **Emission Reduction**

The calculation of emission reduction is described in section E.6.2 of the PoA-DD as follows:

$$ER_y = BE_y - PE_y - LE_y$$



Where:

$ER_y$  Emission reductions in year  $y$  (t CO<sub>2</sub>/y)

$BE_y$  Baseline emissions in year  $y$  (t CO<sub>2</sub>/y)

$PE_y$  Project emissions in year  $y$  (t CO<sub>2</sub>/y)

$LE_y$  Leakage emissions in year  $y$  (t CO<sub>2</sub>/y)

Validation team confirmed that the above expression is in line with AMS-I.D version 17 paragraph 23.

Based on the above assessment, the validation team hereby confirmed that:

- (a) All assumptions and data used by the project participants are listed in the PoA-DD, including their references and sources;
- (b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA-DD;
- (c) All values used in the PoA-DD are considered reasonable in the context of the proposed CDM project activity;
- (d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PoA-DD.

### 3.7 Additionality of a PoA (97)

As set out in eligibility “*criterion (a) and (e)*” in section A.4.2.2 of the PoA-DD that CPA employing Solar PV technology with installed capacity less than or equal 15 MW is considered as “Automatic Additional” as per paragraph 2 of EB63 Annex24 (Attachment A of appendix B).

Validation team confirmed that the on EB63 Annex24 is correct and its claimed on “automatic additional” is sound and reasonable. This is in line with the referred EB’s decision.

#### 3.7.1 Prior consideration of the clean development mechanism (104)

As per EB60 annex 26 paragraph 3, EB agreed that the “*Guidelines for the demonstration and assessment of prior consideration of the CDM*” do not apply to PoAs, as it is expected that no component of the programme



will commence prior to the start date of validation. Therefore, this section is not applicable.

### 3.7.1.1 Historical information on project timeline

The PoA webhosted date for global stakeholder consultation is 25/01/2012. As per EB49 Annex 22, it falls under the category of “*new project activities*”. Hence, Historical information on project timeline with respect to any real action prior to the start date of project activity is not applicable.

### 3.7.2 Identification of alternatives (107)

The approved methodology AMS-I.D version 17 does not require identification of alternatives. Therefore, it is not applicable to this PoA.

### 3.7.3 Investment analysis (114)

As per demonstration of “Solar PV with installed capacity less than or equal 15 MW”, it’s confirmed that this PoA is “automatic additional” and there is no need to demonstrate additionality through investment analysis.

### 3.7.4 Barrier analysis (118)

As per demonstration of “Solar PV with installed capacity less than or equal 15 MW”, it’s confirmed that this PoA is “automatic additional” and there is no need to demonstrate additionality through barrier analysis.

### 3.7.5 Common practice analysis (121)

As per demonstration of “Solar PV with installed capacity less than or equal 15 MW”, it’s confirmed that this PoA is “automatic additional” and there is no need to demonstrate additionality through barrier analysis.

## 3.8 Monitoring plan (124)

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design are described below.

#### (a) Document reviewed

Data / Parameter:	$EG_{facility,y}$
Data unit:	MWh/y
Description:	Quantity of net electricity supplied to the grid in year y
Source of data to be used:	Measured by electricity meters



Value of data applied for the purpose of calculating expected emission reductions in section B.5	To be specified in each CPA-DD
Description of measurement methods and procedures to be applied:	Continuous monitoring, hourly measurement and at least monthly recording. The net electricity supplied to a grid is the difference between the measured quantities of the grid electricity export ( $EG_{exp,y}$ ) and the import ( $EG_{imp,y}$ ): $EG_{facility,y} = EG_{exp,y} - EG_{imp,y}$
QA/QC procedures to be applied:	Meters will be calibrated at appropriate intervals according to the PEA standards (i.e. national standards <sup>1</sup> ). Measurement results shall be cross checked with records for sold/purchased electricity.
Any comment:	<i>"<math>EG_{facility,y}</math>" is the monitoring parameter used to monitor quantity of net electricity supplied to the grid in the year y, as per Table 1: Parameters for monitoring during the crediting period, S.No 5, page 11/16 of AMS.I.D, version 17. <math>EG_{facility,y}</math> is equivalent to <math>EG_{BL,y}</math> from AMS I.D Equation (1) and is also equivalent to <math>EG_{PJ,facility,y}</math> in the case of capacity additions, as per Equation (3).</i>  <i>This data will be archived up to 2 years after the completion of crediting period or last issuance whichever is later.</i>

Validation team reviewed the above description provided in section E.7 of the PoA-DD and found that this guidance is clear and in line with AMS-I.D version 17. This is accepted.

(b) Interview session with GRT Energy Co., Ltd. (C/ME)

An interview session with Mr. Piroon Shinawatra (CEO of GRT Energy Co., Ltd.) on 24/03/2012, combined with the document "GRT Energy Small-Scale Solar PV (PoA) – Programme of Activities (PoA) Management System" version 01 dated on November 2011" (Ref /08/), it's result in a conclusion that C/ME realized the importance of the monitoring plan and is competent to follow up monitored parameters requested from CPA owners. Validation team validated monitoring system as shown during the interview session and found that monitored

<sup>1</sup> SD\_24-INTERCONNECTIONCODE\_PEA\_EN[1], Para-6, Page-7





data would be achieved electronically in such a way that the status of verification can be determined for each CPA at any time.

The validation team hereby confirms that the project participants are able to implement the monitoring plan.

### **3.9 Sustainable development (127)**

The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party. Refer to item 3.1 of this present report.

### **3.10 Local stakeholder consultation (130)**

Project participants decided to conduct local stakeholder consultation at CPA level. Therefore, this section is not applicable (see the details of the local stakeholder consultation at CPA level in CPA validation report).

### **3.11 Environmental impacts (133)**

Project participants decided to conduct analysis of environmental impacts at CPA level. Therefore, this section is not applicable. Please refer to analysis of environmental impact at CPA level in CPA validation report.

## **4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS**

The PoA-DD using methodology AMS-I.D version 17 was webhosted on the UNFCCC for global stakeholders comment as per CDM requirements. The project was webhosted from 25/01/2012 to 23/02/2012.

There is no comment received.

## **5 VALIDATION OPINION**

Bureau Veritas Certification has performed a validation of the "*GRT Energy Small Scale Solar PV (PoA)*". The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participants used the latest guidance for demonstration of additionality. In line with this tool, the PoA-DD provides analysis of



additionality to determine that the PoA project itself is not the baseline scenario.

By synthetic description of the project, the project is likely to result in reductions of GHG emissions. An analysis of the investment demonstrates that the proposed PoA project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the PoA project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the programme of activity design documentation (PoA-DD) (version 2.4) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification thus requests registration of '*GRT Energy Small Scale Solar PV (PoA)*' project.

## 6 REFERENCES

### Category 1 Documents:

Documents provided that related directly to the GHG components of the project.

- /1A/ Thai DNA (Thailand Greenhouse Gas Management Organization, TGO) publication "*Summary report : The Study of Emission Factor for Electricity Generation of Thailand in year 2010*" dated on 30 December 2011, publicly available at  
[http://www.tgo.or.th/english/download/publication/GEF/2010/GEFReport\\_EN.pdf](http://www.tgo.or.th/english/download/publication/GEF/2010/GEFReport_EN.pdf)
- /2A/ Calculation spreadsheet for the Study of Emission Factor for Electricity Generation of Thailand in year 2010, dated on 30 December 2011, publicly available at.  
[http://www.tgo.or.th/download/publication/GEF/2010/ThailandGEF2010\(Validation\)revise1.xlsx](http://www.tgo.or.th/download/publication/GEF/2010/ThailandGEF2010(Validation)revise1.xlsx)
- /3A/ CDM-SSC-PoA-DD "*GRT Energy Small Scale Solar PV (PoA)*" version 1.0, dated on 06/07/2012.
- /4A/ CDM-SSC-PoA-DD "*GRT Energy Small Scale Solar PV (PoA)*" version 3.0, dated on 06/06/2012.
- /5A/ CDM-SSC-PoA-DD "*GRT Energy Small Scale Solar PV (PoA)*" version 4.0, dated on 06/07/2012
- /6A/ CDM-SSC-CPA-DD "*GRT Energy Small Scale Solar PV (PoA)*" version 4.0, dated on 06/07/2012
- /7A/ CDM-SSC-CPA-DD "*GRT Energy Small Scale Solar PV (PoA) – CPA-001*" version 4.0, dated on 06/07/2012

**Category 2 Documents:**

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- /01/ LoA from Thailand Greenhouse Gas Management Organization (TGO) (Thailand DNA) issued on 25 May 2012 Ref No. TGO 02/517
- /02/ Clarification letter from Thailand Greenhouse Gas Management Organization dated on 28/08/2012 regarding missing 'C/ME' statement in LoA
- /03/ LoA from Swedish Energy Agency (Sweden's DNA)
- /04/ Thailand Renewable Energy Policies and Wind Development Potential, Department of Alternative Energy Development and Efficiency, DEDE, Bangkok, Thailand,
- /05/ CPA Eligibility Assessment Report (SD\_33) version version 01
- /06/ CPA Eligibility Assessment Report (SD\_33) version version 02
- /07/ CPA Eligibility Assessment Report (SD\_33) version version 03
- /08/ GRT Energy Small-Scale Solar PV (PoA) – Programme of Activities (PoA) Management System” version 01 dated on November 2011
- /09/ GRT Energy Small-Scale Solar PV (PoA) – Programme of Activities (PoA) Management System” version 02 dated on November 2011
- /10/ List of Solar PPA Holders - PEA
- /11/ Technical Proposal "Solar Power Plant Project" developed by ETDE and BOUYGES-THAI version 2.3 dated on 28/03/2012
- /12/ The UNFCCC website detailed on DNA at various countries
- /13/ List of watershed area in Thailand
- /14/ Map of Watershed area in Thailand
- /15/ Company business license of GRT Energy Co., Ltd. dated on 16/12/2010 issued by Department of Business Development, Ministry of Commerce
- /16/ Participant List for Onsite visit (23/03/2012) and GRT Energy's office visit (24/03/2012)
- /17/ Power Purchase Agreement between Aquatis Energy and Lopburi Solar and Provincial Electric Authority dated on 26/03/2012
- /18/ Regulation for the Purchase of Power from Very Small Power Producers
- /19/ Thailand's Approach to Promoting Clean Energy in the Electricity Sector
- /20/ Publication of “*Grid emission factor of Thailand*” published by Thai DNA (Thailand Greenhouse Gas Management Organization – TGO) dated on 30 December 2011

**Persons interviewed:**



List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

- |                             |   |
|-----------------------------|---|
| /1/ Mr Piroon Shinawatra    | CEO of GRT Energy Co., Ltd.   |
| /2/ Mr Angus McEwin         | Biosphere Capital Pte Ltd.  |
| /3/ Dr Chaiwat Muncharoen   | Deputy Executive Director of Thailand Greenhouse Gas Management Organization                  |
| /4/ Ms Bongkoch Kittisompun | Director of Approval and Monitoring Office of Thailand Greenhouse Gas Management Organization |
| /5/ Mr Rongphet Bunchuaidee | Assisstant Senior Officer of Thailand Greenhouse Gas Management Organization                  |

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## 7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

### 1. Team member and verifier: Chumpol Sripraparkorn – Ph.D. (Environmental Management)

*Bureau Veritas Certification – GHG/CDM Verifier (Thailand based)*

With almost 10 years experiences in environmental business including international professional competent linked to well-known environmental research institute, he earned PhD in environmental management and environmental science during master and bachelor degree. He has been involved in several VCS and CDM project.

### 2. Team member and verifier: Pongsakorn sa-ngapon

*Bureau Veritas Certification – GHG/CDM Verifier (Thailand based) / EMS/EnMS Lead Auditor*

He has been graduated Bachelor Degree in Industrial Chemistry, Bachelor Degree in Occupational Health and Safety, Master Degree in Environmental Science, Master Degree in Business Administration and candidate of Bachelor Degree in Law. He is a GHG/CDM Lead Verifier and Management System Lead Auditor. He has 3 years experience in QA/QC in manufacturing industries, 4 years experience in Environmental Impact Assessment (EIA) in consultancy firms, 4.5 years experience in wastewater treatment plants, air pollution control equipments and industrial waste management supervisor and 4.5 years experience in industrial environmental engineering and management in 2 x 700 MW Coal Fired Power Plant. He has earned the permit license from Department of Industrial Works (Thailand) for working as the supervisor and controller for industrial wastewater treatment system, industrial air pollution control system and industrial waste management system. He has received the training and obtained the certificates of CDM Verifier/Lead Verifier, GHG Accounting based on ISO 14064: 2006, EMS-ISO14001:2004 Auditor/Lead Auditor, Energy Management Systems Transition and ISO 50001:2011 Upgrade Training Course, ISO 9001: 2008 Lead Auditor Course, Life Cycle Assessment (LCA) and Carbon Footprint of Products (CFP) Training Course. He is also validate and verify for GHG projects and has been involved in validation and verification process of 10 CDM and 4 VCS projects.

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**APPENDIX A: COMPANY CDM PROJECT VALIDATION PROTOCOL**

**Table 1** Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2) and methodology AMS I.D (version 17) - “Grid connected renewable electricity generation”

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
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## VALIDATION REPORT

<b>1. Approval</b>			<b>COUNTRY A :Thailand</b>	<b>COUNTRY B : Sweden</b>		
a. Have all Parties involved approved the project activity?	VVM	44	<p><u>CAR01.1:</u> The LOA of Thailand is not provided.</p> <p>At the 3<sup>rd</sup> response from PPs dated on 6 June 2012, the letter of approval (LoA) from Thailand Greenhouse Gas Management (Thailand DNA) issued on 25 May 2012 (Ref /01/) have been submitted by GRT Energy Co.,Ltd for validation.</p>	<p><u>CAR01.2:</u> The LOA of Sweden is not provided.</p> <p>At 4st response from PP, the letter of approval (LoA) from Sweden issue dated on 18/06/2012 (Ref /03/) have been submitted to DOE by Tricorona Carbon Asset Management Pte Ltd.</p>	CAR01	OK.
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PoA-DD/CPA-DD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participatn or directly from the DNA)	VVM	45	<p>No. The identification in section A.3 provided that Thai DNA wishes to not be considered as project participant in this project.</p> <p>As per statement in LoA from Thailand Greenhouse Gas Management (Public Organization); (TGO)</p>	<p>No, there is no indication in LoA from Sweden (Ref /03/) that Sweden wishes to participate in PoA as project participant.</p>	OK.	OK.



VALIDATION REPORT



		<p>dated on 25 May, 2012, it was stated in the letter that <i>GRT Energy Small Scale Solar PV</i> (PoA)TGO has been approved by Thai DNA</p> <p>In the light of the above, it's confirmed that the Thailand's DNA does not involved in this project</p>		
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## VALIDATION REPORT

c. Does the letter of approval from DNA of each Party involved:	VVM	45	-	-	-	
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	Yes. The statement in LoA confirmed that Thailand is a party of the Kyoto Protocol.	Yes. The statement in LoA confirmed that Sweden is a party of the Kyoto Protocol.	OK.	OK.
ii. confirm that participation is voluntary?	VVM	45.b	Yes. The statement in LoA indicated that the participation is voluntary.	Yes. The statement in LoA indicated that the participation is voluntary.	OK.	OK.
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	Yes. It's stated that the CDM project activity will assist host country in achieving sustainable development	Not applicable. Sweden is not host country	OK.	OK.
iv. Refers to the precise proposed CDM project activity title in the PoA-DD/CPA-DD being submitted for registration?	VVM	45.d	Yes, it's refer to "GRT Energy Small Scale Solar PV (PoA)"	Yes, it's refer to "GRT Energy Small Scale Solar PV (PoA)"	OK.	OK.
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	No, the letter is issued with no condition attached.	No, the letter is issued with no condition attached.	OK.	OK.



## VALIDATION REPORT

e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	Yes.  As per detail of Thailand DNA within search result of CDM website ( <a href="http://cdm.unfccc.int/DNA/index.html">http://cdm.unfccc.int/DNA/index.html</a> ), it's confirmed that Thailand Greenhouse Gas Management (TGO) is approved as Thailand DNA.	Yes.  With reference to CDM website ( <a href="http://cdm.unfccc.int/DNA/index.html">http://cdm.unfccc.int/DNA/index.html</a> ), it's confirmed that Swedish Energy Agency is approved as Thailand DNA.	OK.	OK.
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## VALIDATION REPORT

f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	<p>Yes.</p> <p>Validation team requested project participant to ask for clarification on why there is no statement in LoA confirming that GRT Energy Co., Ltd. Is approved as Coordinating/Managing Entity (C/ME) for this PoA.</p> <p>At 6st response, the clarification letter from Thailand Greenhouse Gas Management Organization dated on 28/08/2012 regarding missing 'C/ME' statement in LoA (Ref /02/) had been provided and detail in the letter clearly provided that Thai DNA had approved GRT Energy Co., Ltd. as C/ME for this PoA. The issue is cleared and closed.</p>	No.	OK.	OK.
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## VALIDATION REPORT

g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	Yes.  The LoA (Ref /01/) and clarification letter (Ref /02/) were verified by phone call interview with TGO officer and it's confirmed that these document are authentic.	Not applicable.	OK.	OK.
<b>2. Participation</b>			<b>PP1 (Tricorona Carbon Asset)</b>	<b>PP2 (GRT Energy Co.,Ltd.)</b>		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Yes, Tricorona Carbon Asset Management Pte Ltd	Yes, GRT Energy Co.,Ltd.	OK.	OK.
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Yes. Tricorona Carbon Asset Management Pte Ltd is approved by Swenden's DNA	Yes. GRT Energy Co., ltd is approved by Thai DNA	OK.	OK.
c. Are the project participants listed in tabular form in section A.3 of the PoA-DD/CPA-DD?	VVM	52	Yes, detail of project participants are listed in tabular form.	Yes, detail of project participants are listed in tabular form.	OK.	OK.
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PoA-DD/CPA-DD?	VVM	52	Yes.	Upon closure of CL11 below, it's confirmed that information of GRT Energy Co., Ltd. is consistent with evidence provided.	CL14	OK.
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve	VVM	52	Yes.  Tricorona Carbon Asset Management Pte Ltd is	Refer to CAR01.1 above  Upon closure of CAR01.1 above,	CAR01	OK.



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participation? (Provide reference of the approval document for each of the project participants)			approved by Swedish Energy Agency (Sweden's DNA) (Ref /03/)	combined with LoA from Thai DNA, it's confirmed that participation of GRT Energy Co., Ltd had been approved by Thai DNA.		
f. Are any entities other than those approved as project participants included in these sections of the PoA-DD/CPA-DD?	VVM	52	No.	No.	OK.	OK.
g. Has the approval of participation issued from the relevant DNA?	VVM	53	<del>Refer to CAR01.2 above</del> Upon closure of CAR01.2 above, Swedish Energy Agency is approved as Sweden's DNA	<del>Refer to CAR01.1 above</del> Upon closure of CAR01.1 above, Thailand Greenhouse Gas Management Organization is approved as Thai DNA	CAR01	OK.
h. Is there doubt with respect to (g) above? I	VVM	53	<del>Refer to CAR01.2 above</del> Upon closure of CAR01.2 above, there is no doubt in LoA from Sweden.	<del>Refer to CAR01.1 above</del> Upon closure of CAR01.1 above, it's confirmed that GRT Energy Co., Ltd is approved by Thai DNA to be Coordinating/Managing Entity (C/ME)	CAR01	OK.



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i. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	Refer to CAR01.2 above  Upon closure of CAR01.2 above, this is not applicable.	Refer to CAR01.1 above  Upon closure of CAR01.1 above, this is not applicable.	CAR01	OK.
<b>3. Project desing document</b>						
<b>CDM-SSC-PoA-DD : GRT Energy Small Scale Solar PV (PoA)</b>						
a. Is the CDM-SSC-PoA-DD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	Yes, CDM-SSC-PoA-DD entitles GRT Energy Small Scale Solar PV (PoA) version 01 dated on 26/10/2011 is following latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.		OK.	OK.
b. Is the CDM-SSC-PoA-DD in accordance with the applicable CDM requirements for completing the CDM-SSC-PoA-DD?	VVM	56	Yes.		OK.	OK.
c. In CDM-SSC-PoA-DD section A.1 are following provided?	-	-	-		-	
i. Title of the small-scale programme of activities	EB 33	Ann 43	Yes, GRT Energy Small Scale Solar PV (PoA) version 01 dated on 26/10/2011		OK.	OK.
d. In CDM-SSC-PoA-DD section A.2 are following provided?	-	-	-		-	-
i. General operating and implementing framework of PoA.	EB 33	Ann 43	Yes, small-scale, solar photo-voltaic (PV) grid connected power plants		OK.	OK.
ii. Policy/measure or stated goal of the PoA	EB 33	Ann 43	Yes, the PoA aims to develop a platform which will assist the development of small-scale grid connected solar PV power plants in Thailand		OK.	OK.
iii. Confirmation that the proposed PoA is a voluntary action by the cordinating/managing entity.	EB 33	Ann 43	<u>CL01</u> As indicated in section A.2 of the PoA-DD, please provide the reference for statement that the Royal Thai Government supports the use of renewable		CL01	OK.





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			<p>energy in the country without legally binding.</p> <p>At 3rd response, project participant submitted document named "Thailand Renewable Energy Policies and Wind Development Potential" published by Department of Alternative Energy Development and Efficiency, Ministry of Energy (Ref /04/), it's confirmed that development of Solar PV power plant is voluntary and there is no law enforcement in country to shift from fossil fuel to renewable energy sources.</p> <p>This is accepted and closed.</p>		
e. In CDM-SSC-PoA-DD section A.3 are following provided?	-	-	-	-	-
i. Coordinating or managing entity of the PoA as the entity which communicates with the Borad	EB 33	Ann 43	Yes, GRT Energy Co.,Ltd. is CME of the project.	OK.	OK.
ii. Project participants being registered in relation to the PoA. Project participants may or may not be involved in one of the CPAs related to the PoA	EB 33	Ann 43	Yes, Tricorona Carbon Asset Management Pte Ltd and GRT Energy Co., Ltd	OK.	OK.
f. In CDM-SSC-PoA-DD section A.4.1 are following provided?	-	-	-	-	
i. Location of the programme of activities	EB 33	Ann 43	Yes, Thailand.	OK.	OK.
ii. Host Party(ies)	EB 33	Ann 43	Yes, Thailand.	OK.	OK.
iii. Physical/ Geographical boundary	EB 33	Ann 43	Yes, Thailand.	OK.	OK.
g. In CDM-SSC-PoA-DD section A.4.2 are following provided	-	-	-	-	

i. Technology or measures to be employed by the SSC-CPA	EB 33	Ann 43	<p><u>CAR02</u> The reference to figure 5 indicated in table 2 of section A.4.2. of the PoA-DD is not match with the context.</p> <p>At 1<sup>st</sup> response from PPs on 20/03/2012, the figure in section A.4.2 of the PoA-DD version 1.0 (Ref /1A/) dated on 21/03/2012 has been changed to match the context. This CAR02 is closed.</p>	CAR02	OK.
			<p><u>CL14</u> As indicated in section A.4.2.1 of the PoA-DD version 01 (Ref /1A/) dated on 21/03/2012 that “<i>typical CPA under the current PoA comprise <u>one or more newly-built</u></i>”, please clarify whether there would be one project activity in one CPA or there would be possible to have bundle project activities in one CPA.</p> <p>At its 1<sup>st</sup> response from PPs on 30/04/2012, the revision has been made that a typical CPA in the current PoA could comprise of a single project activity or a bundle of project activities.</p> <p>DOE noticed the revision to the original statement that “a typical CPA under the current PoA comprise of either a single project activity or a bundle of project activities” in page 4 of section A.4.2.1 of the PoA-DD version 01 (Ref /1A/) dated on 30/04/2012. The DOEs considered this revision is clear and satisfied.</p>	CL14	OK.



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			The CL14 is closed on 11/05/2012.		
ii. Eligibility criteria for inclusion of a SSC-CPA in the PoA	EB 33	Ann 43	<p>Yes.</p> <p>With reference to PoA-DD version 1.0 (Ref /1A/) dated on 26/12/2011, these following criteria are provided;</p> <ul style="list-style-type: none"> <li>a) The SSC-CPA should have its project site located in Thailand and the electricity generated shall be fed to the Thai National Grid.</li> <li>b) The SSC-CPA shall be uniquely identified and defined by way of the uniqueidentifying numbers (serial numbers) and GPS coordinates attached to each Solar PV installation, to ensure that all CPAs under this PoA are neither registered as an individual CDM project activity nor included in another registered PoA.</li> <li>c) The SSC-CPA shall generate electricity using solar photo-voltaic (PV) technology (including but not limited to thin film and crystalline technology).</li> <li>d) The EPC contract date will be taken as the CPA start date. The EPC contract date of the CPA shall be after the PoA validation start date.</li> <li>e) The SSC-CPA shall comply with the applicability criteria of the methodology AMS.I.D- Grid connected renewable electricity generation, version - 17.0. The</li> </ul>	OK.	OK.



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			<p>SSC-CPA :</p> <ul style="list-style-type: none"> <li>▪ Shall not be a combined heat and power (co-generation) system</li> <li>▪ Capacity limits: <ul style="list-style-type: none"> <li>- not more than 15 MW for Greenfield projects</li> <li>- for capacity addition: the added capacity of the units should be lower than 15 MW and should be physically distinct<sup>3</sup> from the existing units</li> <li>- for retrofit: the total output of the retrofitted unit shall not exceed 15 MW</li> </ul> </li> </ul> <p>f) The SSC-CPA should comply with the requirements stated in the generic CPA-DD for the following:</p> <ul style="list-style-type: none"> <li>▪ Stakeholder consultation</li> <li>▪ Environmental impact assessment</li> </ul> <p>g) The SSC-CPA shall undergo a de-bundling check in line with “Guidelines on assessment of debundling for SSC project activities” (EB 54, Annex 13), and thus the SSC-CPA should not be a debundled component of any other large scale project activity</p> <p>h) Conditions to provide an affirmation that funding from Annex I parties, if any, do not result in a diversion of official development assistance.</p> <p>i) All the SSC-CPA owners shall formally/legally own the land/ rooftops, on</p>		
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			<p>which the SSC-CPA is going to be installed, or rent the land/ rooftops from the legal owners</p> <p>j) The SSC-CPA owners shall have a business license or should have been legally registered to conduct business in Thailand</p> <p>k) Contractual provisions should be 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>		
iii. Are eligibility criteria defined above demonstrated by establishing that in the absence of CDM, none of the implemented CPAs would occur	EB 65	Ann 3	<p>Refer to CL03 below.</p> <p>Upon closure of CL03 above, it's confirmed that eligibility criteria defined by establishing that in the absence of CDM, none of the implemented CPAs would occur.</p>	CL03	OK.
iv. In case PoAs consisting of one or more <u>microscale</u> project as CPA, are eligibility criteria defined above derived from all the relevant requirements of the " <i>Guidelines for demonstrating additionality of microscale project activities</i> "	EB 65	Ann 3	<p><u>CL02</u></p> <p>Please clarify on how would microscale project activity possibly be involved in this PoA and how it related to description in any relevant sections of PoA-DD, including but not limit to section A.4.2.1, A.4.2.2 and E.5, with regard to the term "eligibility criteria"</p> <p>At 1<sup>st</sup> response from PPs on 20/03/2012, DOE took note that eligibility of Solar PV with installed capacity less than 5 MW (i.e. microscale project) under this PoA is completely covered by EB63 annex 24, attachment A of appendix B.</p>	CL02	OK.



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			DOE validated this justification against “positive list” in attach A of appendix B mentioned above and found that “Solar PV” up to 15 MW installed capacity is fall under “positive list” and considered as automatic additional without further document of barrier. This is in line with eligibility criteria (c) set out in section A.4.2.2. of the PoA-DD and this already included microscale Solar PV with installed capacity equal to or less than 5 MW in this criteria without causing any contradiction. The justification by PPs is reasonable.  Therefore, CL02 is closed on 20/03/2012.		
v. In case PoAs consisting of one or more <u>small scale</u> project as CPA, are eligibility criteria defined above derived from all the relevant requirements of attachment A of Appendix B of the “Simplified modalities and procedures for small-scale CDM project activities	EB 65	Ann 3	Yes.  The eligibility criteria (c ) defined that the SSC-CPA shall generate electricity using solar photo-voltaic (PV) technology (including but not limited to thin film and crystalline technology)	OK.	OK.
vi. In case PoAs consisting of one or more <u>large scale</u> project as CPA, are eligibility criteria defined above derived from all the relevant requirements contained in the additionality section of the large scale methodologies.	EB 65	Ann 3	Not Applicable.	OK.	OK.
vii. Are description of “additionality-related eligibility criteria” provided in order to ensure compliance of CPA with all relevant additionality-related guidelines, tools or any requirements embedded in the methodologies.	EB 65	Ann 3	<del>Refer to CL03 below</del>  Upon closure of CL03 below, it’s confirmed that additionality-related eligibility had been included in eligibility criteria.	CL03	OK.
viii. In case PoA involving combination of technologies/measures and/or methodologies,	EB 65	Ann 3	Not Applicable. This PoA is not involved combination of technology. It’s only Solar PV	OK.	OK.



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are the eligibility criteria defined above demonstrated additionality to each of them			technology.		
ix. Are eligibility criteria defined above in accordance with the latest EB guidance regarding development of PoA eligibility criteria; (a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA; (b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo); (c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications; (d) Conditions to check the start date of the CPA through documentary evidence; (e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs; (f) The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality; (g) The PoA-specific requirements stipulated by the CME including any conditions related	EB 65	Ann 3	<u>CL03</u> As indicated in EB65 annex 3, the PPs is requested to clarify on these following issues; 1) With reference to para 14 (c) of EB65 annex 3 mentioned above, please further clarify on how is the “ <b>compliance with testing/certifications</b> ” taking into account of eligibility criteria point (c) of the PoA-DD. 2) As indicated in eligibility criteria point (e) in section A.4.2.2. of the PoA-DD, please clarify discrepancy of the term “ <b>Retrofit</b> ” which is described differently between section A.4.2.2 and E.2 (point 6) and please also clarify on how was the term “ <b>Replacement</b> ”, as indicated in para 3 of AMS-I.D version 17, taken into account of development of eligibility criteria in this PoA-DD. 3) Please clarify on how are para (k) of EB65 annex3 taken into account of development of eligibility in this PoA-DD. 4) With regard to eligibility criteria (f) defined in section A.4.2.2 of the PoA-DD, please clarify how it’s related to the description in section C.1, C.2 and C.3 in case that “ <b>Environmental Impact Assessment (EIA)</b> ” is not required but “ <b>Initial Environmental Evaluation – Sustainable Development (IEE-SD)</b> ” is eventually submitted CME in order to justify its	CL03, CL13 CL17	OK.





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<p>to undertaking local stakeholder consultations and environmental impact analysis;</p> <p>(h) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance;</p> <p>(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, gridconnected/ off-grid) and distribution mechanisms (e.g. direct installation);</p> <p>(j) Where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guidelines/standard from the Board pertaining to sampling and surveys;</p> <p>(k) Where applicable, the conditions that ensure that every CPA in aggregate meets the small-scale or microscale threshold criteria and remains within those thresholds throughout the crediting period of the CPA;</p> <p>(l) Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories.</p>		<p>eligibility.</p> <p>5) With respect to the eligibility criteria defined in section A.4.2.2 of the PoA-DD, please clarify on how CME demonstrates the eligibility of the next CPAs through “<b>condition to be met</b>” derived from defined criteria (if appropriate) and “<b>likely evidence/supporting document</b>” that would possibly requested from CPA project owner in order to justify and/or support their eligibilities.</p> <p>Project participant has made the revision on these following;</p> <p>1) The eligibility criterion (c) has been revised to include that the technology should comply with national regulatory standards of Thailand<sup>1</sup>. These relate to PEA’s technical consideration criteria. DOE considered that is in line with PEA technical standard and accepted. This issue is closed.</p> <p>2) The retrofits and replacements are now consistently excluded from the PoA as part of the eligibility criteria. DOE considered this exclusion is satisfied and consistent with other parts of document. This issue is closed.</p> <p>3) The eligibility criteria are now updated in the design documents to be clear for both greenfield projects and capacity addition</p>	
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<sup>1</sup> SD\_24, para-5,page-6



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		<p>projects. DOE considered this is satisfied and this issue is closed.</p> <p>4) Criteria revised – assessment of environmental impacts is only required in accordance with national regulations.</p> <p>5) Evidence to support each criteria had been revised</p> <p>The CL03 is closed at 6st response (see detail in table 3)</p> <p><u>CL13</u></p> <p>With regard to new revision on eligibility criteria (e) in section A.4.2.2. of the PoA-DD version 01 (Ref /1A/) dated 21/03/2012 that “<i>the CPA in aggregate shall not exceed the 15MW limit for installed capacity throughout the crediting period</i>”, combined with initial responses from PPs during onsite visit (23/03/2012), please further clarify on how to ensure that the combined total installed capacity of any CPA would remain in 15MW limit throughout crediting period.</p> <p>At its 1<sup>st</sup> response from PPs on 30/04/2012, the clarification has been made that if a project activity goes beyond the limit of its type in any year of the crediting period, the emission reduction that will be claimed by the project activity during this particular year will be capped by the maximum emission reduction estimated in the CPA-DD by the PP for that year during the crediting period</p>		
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		<p>DOE considered that this clarification is in line with paragraph 3 of “<i>General Guideline to SSC CDM methodologies, version 17</i>” and it is accepted.</p> <p>For part of installed capacity expansion, CME ensures that any capacity increase would be identified via specific parameters needed to be reported by monitoring procedure, contract binding between CPA-CME. DOE considered this procedure is strong and likely to believe that any anomaly in installed capacity in one particular CPA in future would be identified.</p> <p>This CL13 is closed on 11/05/2012.</p> <p><b><u>CL17</u></b></p> <p>As result of the latest change in criteria (e) as indicated in section A.4.2.2 of the PoA-DD version 04 dated on 06/07/2012, project participant is requested clarify these following issues;</p> <ol style="list-style-type: none"> <li>1) What is the reason behind the revision in term of “suggested document/supporting document” in criteria (e)?</li> <li>2) With implication for this latest change in term of “suggested evidence/supporting documents”, how can either one of these documents such as, PPA or FSR or EPC contract, or project technical design document able to provide conclusive information in regard to eligibility condition set out in criteria (e).</li> <li>3) Please clarify on how can either one of these documents such as, PPA or FSR or EPC</li> </ol>	
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			<p>contract or project technical design document able to provide clear linkage between “entity/individual responsible for the small-scale CPA” and “technology supplier” with effective legal-binding condition between these two entities.</p> <p>4) Please clarify on how CME (i.e., GRT Energy Co., Ltd.) can ensure that next CPA implementer will not use only either one of these document such as, PPA or FSR or EPA contract or project technical design document to escape from criteria (e) and causing “erroneous inclusion” in inclusion stage.</p> <p>At 6<sup>st</sup> response, this CL17 is closed. (see detail in table 3)</p>		
h. In CDM-SSC-PoA-DD section A.4.3 are following provided?	-	-	-	-	-
i. The proposed PoA is a voluntary coordinated action	EB 33	Ann 43	Yes, nature of voluntary coordinated action is described.	OK.	OK.
ii. If the PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the PoA	EB 33	Ann 43	<p>Yes.</p> <p>Project participant choose to demonstrate additionality through “Attachment A of Appendix B” of the “Simplified modalities and procedures for small-scale CDM project activity”</p>	OK.	OK.
iii. Confirmation that the small-scale project If the PoA is implementing a mandatory policy/regulation, this would/is not enforced	EB 33	Ann 43	Not applicable.	OK.	OK.
iv. If mandatory a policy/regulation is enforced, the PoA will lead to a greater level of enforcement	EB 33	Ann 43	Not applicable.	OK.	OK.



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of the existing mandatory policy/regulation.					
v. demonstration of additionality of the PoA as a whole	EB 33	Ann 43	Yes, demonstration of additionality is being demonstrated at PoA level.	OK.	OK.
i. In CDM-SSC-PoA-DD section A.4.4.1 are following provided?	-	-	-	-	
i. A record keeping system for each CPA under the PoA	EB 33	Ann 43	Yes, Thai Solar database will be set up by the technical team of GRT-Energy.  DOE has conducted GRT office visit on 23/03/2012, see comment in table 2 point (1) (a) below.	OK.	OK.
ii. A system/procedure to avoid double accounting e.g. to avoid the case of including a new CPA that has been already registered either as a CDM project activity or as a CPA of another PoA	EB 33	Ann 43	Yes, serial number (CPA-XXX) will be uniquely identified.  <u>CL04</u> Please further clarify on how CME ensures that uniquely identified serial number of the CPA could avoid double counting from already registered CDM project activity and/or CPA of another PoA.  At the 1 <sup>st</sup> response from PPs on 20/03/2012, with evidence found during CME office visit and document entitle "GRT Energy Small-Scale Solar PV (PoA) : Programme of Activities (PoA) Management System" (Ref /08/) that each CPA would be recorded with GPS coordinate attached with its own serial number and put into Thai-Solar database. It's likely to believe that each CPA under this PoA would be attached with GPS coordinate accompanied with its own serial number. In order to ensure there is no double counting, the justification	CL04	OK.



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			from PPs that this would be check against coordinate of the existing solar project in CDM database is reasonable. This clarification is satisfied.		
			The CL04 is closed on 20/03/2012.		
iii. The SSC-CPA included in the PoA is not a de-bundled component of another CDM programme activity (CPA) or CDM project activity.	EB 33	Ann 43	Yes, the CME will check each new CPA against <i>"Guidance for Determining the Occurrence of De-bundling under a Programme of Activities (PoA)"</i>	OK.	OK.
iv. The provisions to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA	EB 33	Ann 43	Yes, the CME will sign a CPA/CME agreement with each CPA owner which will include the agreement of the CPA owner to ascribe the CERs generated by their CPAs to the CME.	OK.	OK.
v. The description of CME's management system; (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 continual improvements of the	EB 65	Ann 3	Yes, the document entitles "GRT Energy Small-Scale Solar PV (PoA) - Programme of Activities (PoA) Management System" has been submitted to DOE as part of validation process. It's found that this document covered all necessary issues as required by EB65 annex3. This is satisfied and accepted.  <u>CL05</u> Please incorporate the essential information from document <b>"GRT Energy Small-Scale Solar PV (PoA) - Programme of Activities (PoA) Management System"</b> , with respect to para 9(a) to para 9(g) of EB63 annex3, into section A.4.4 of the PoA-DD  At 3 <sup>rd</sup> response, project participant had added table	CL05, CAR10, CL16, CL16	OK.

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PoA management system; (g) Any other relevant elements.		4 : PoA-management system into section A.4.4.1 of the PDD. This is satisfied and CL05 is closed.  In regard to CME's management system, please see below in table 3 for CAR10, CL15 and CL16  Upon closure of CAR10, CL15 and CL16 below, the issues raised here are closed.		
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j. In CDM-SSC-PoA-DD section A.4.4.2 are following provided?	-	-	-	-	
i. Description of the proposed statistically sound sampling method/procedure to be used by DOE for verification of the amount of reductions of anthropogenic emissions by sources or removals by sinks of greenhouse gases achieved by CPAs under the PoA.	EB 33	Ann 43	Not applicable, the project does not use sampling method but verifies monitoring data from each CPA.	OK.	OK.
ii. In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA (whether in groups or not, with different or identical verification periods) a transparent system is to be defined and described that ensures that no double accounting occurs and that the status of verification can be determined anytime for each CPA	EB 33	Ann 43	Yes, the CME will record the verification status of each CPA, ensuring no double counting occurs.  Upon closure of CL04 above, it's confirmed that each CPA would be recorded with unique GPS coordinates and cross-check with coordinate of the existing solar project in the CDM database.	CL04	OK.
k. In CDM-SSC-PoA-DD section A.4.5 is description of public funding of the programme of activities provided?	EB 33	Ann 43	<u>CL18</u> As result of the latest revision in section A.4.5 of the PoA-DD version 04 dated on 06/07/2012, project participant is requested to clarify on why statement that “..there is no public funding available for the GRT Energy small-scale Solar PV PoA. No sources of public funding for individual CPAs likely to be included in the PoA have been identified..” had been deleted out. Please clarify if the next CPAs get public funding what will affect to the status of that CPAs under this PoA framework. How will GRT Energy Co., Ltd as CME for this PoA handle the situation?	<del>CL18</del>	OK.



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			<p>At 1<sup>st</sup> response from project participant, justification was made that the statement has been deleted in order to allow CPAs with public funding to be included in the POA, as the CME does not see any reason not to include such projects. Such projects will have to demonstrate that no ODA is diverted (in line with EB 55, Annex 38, para. 6(n) and this is already ensured via eligibility Criterion (h) in the PoA-DD.</p> <p>Validation team considered this is reasonable and CL18 is closed.</p>		
I. In CDM-SSC-PoA-DD section B.1 is the starting date of the programme of activities provided?	EB 33	Ann 43	<p><u>CL06</u></p> <p>As indicated in section B.1 of the PoA-DD, please provide justification and supporting document for starting date of PoA which is indicated as <b>"20/01/2012"</b></p> <p>At 7<sup>th</sup> response, project participant had made revision in final version 04 of the PoA-DD and PoA start date, PoA start date of crediting period and 1<sup>st</sup> CPA start date are provided. This is accepted and CL06 is closed.</p>	CL06	OK.
m. In CDM-SSC-PoA-DD section B.2 is the length of programme of activities provided?	EB 33	Ann 43	Yes, 28 years.	OK.	OK.
n. In CDM-SSC-PoA-DD section C.1 is indication of level at which environmental analysis undertaking, provided?	EB 33	Ann 43	Yes. Environmental Analysis is done at SSC-CPA level	OK.	OK.
o. In CDM-SSC-PoA-DD Section C.2 is documentation on the analysis of the environmental impacts, including transboundary	EB 33	Ann 43	<p><u>CL07</u></p> <p>As description in section C.2 of the PoA-DD, please provide accessible link to the reference regarding</p>	CL07	OK.



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impacts, provided?			EIA requirement in Thailand.  At the 1 <sup>st</sup> response from PPs on 20/03/2012, the accessible web link has been provided in section C.2 of the PoA-DD version 1.0 (Ref <b>/1A/</b> ) dated on 21/03/2012. Therefore, CL07 is closed on 20/03/2012.		
p. In CDM-SSC-PoA-DD Section C.3 is indication whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA, included in the programme of activities, provided?	EB 33	Ann 43	<b>CAR03</b> 1) The description in section C.3 regarding requirement for small-scale solar PV in conducting EIA study is <u>not</u> in line with Thai Environmental Law, while proposed location of CPAs particularly in <u>sensitive natural area</u> , is not taken into account. 2) There is no statement regarding to the term “ <b>transboundary impact</b> ” in section C.3.  At 3 <sup>rd</sup> response, DOE took note on new revision regarding the needs for Environmental Impact Assessment in section C.1 and C.3 in the PoA-DD version 3.0., the new revision clearly stated that “...solar power plant projects do not need to undertake an EIA unless they are located in a designated watershed area (type 34)... If any part of a CPA is included in one of these areas, an EIA is required.”. This statement has been validated against Section 46 and Section 51 of the National Environment Quality Act (NEQA) in B.E. 2535 and found this is agreed well to this law. The link indicating watershed list and watershed area map (i.e., <a href="http://water.rid.go.th/hyd/basin/25basin.htm">http://water.rid.go.th/hyd/basin/25basin.htm</a> .,	CAR03	OK.



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			SD_38-watershed-list and SD_42-watershed-area-map) have been validated by DOE and found this is in line with the NEQA.  Therefore, this revision is satisfied and accepted.		
q. In CDM-SSC-PoA-DD section D.1 is indication of the level at which local stakeholder comments are invited, provided?	EB 33	Ann 43	Yes, stakeholder comments will be conducted at CPA level.	OK.	OK.
r. In CDM-SSC-PoA-DD section D.2 is brief description how comments by local stakeholders have been invited and compiled, provided?	EB 33	Ann 43	Not applicable.	OK.	OK.
s. In CDM-SSC-PoA-DD section D.3 is summary of the comments received, provided?	EB 33	Ann 43	Not applicable. Refer to CPA-DD	OK.	OK.
t. In CDM-SSC-PoA-DD section D.4 is report on how due account was taken of any comments received, provided?	EB 33	Ann 43	Not applicable. Refer to CPA-DD	OK.	OK.
u. In CDM-SSC-PoA-DD section E.1 is title and reference of the approved SSC baseline and monitoring methodology applied to a SSC-CPA included in the PoA, provided?	EB 33	Ann 43	Yes, AMS-I.D Grid connected renewable electricity generation version 17 is described.  <u>CAR04</u> As indicated in section E.1 of the PoA-DD, the meeting number with reference to methodology AMS-I.D is incorrect.  At 2 <sup>nd</sup> response from PPs, the meeting number of AMS-I.D is revised and correct (i.e., EB61).  Therefore, CAR04 is closed on 11/05/2012.	CAR04	OK.
v. In CDM-SSC-PoA-DD section E.2 is justification	EB	Ann	Yes.	CAR05	OK.



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of the choice of the methodology and why it is applicable to a SSC-CPA, provided?	33	43	<p>According to PoA-DD version 1 dated on 26/12/2012, the justification in accordance to para 1, 3, 5, 6, 7 and 8 of AMS-I.D version 17 have been clarified and provided. However, the justification on para 2 and 4 of the methodology are missing.</p> <p><u>CAR05</u> As description in section E.2 of the PoA-DD, the justification on its applicability according to para 2 and 4 of methodology AMS-I.D version 17 are missing.</p> <p>At the 1<sup>st</sup> response from PPs on 20/03/2012, section E.2 of the PoA-DD has been revised to reflect paragraph 2 and 4 of AMS-I.D version 17. DOE validated these revisions and found this is in line with the methodology. The CAR05 is closed on 11/05/2012.</p> <p>Upon closure of CL03 point (2) from PPs at the 1<sup>st</sup> response on 20/03/2012, “<i>Retrofit</i>” and “<i>Replacement</i>” have been excluded from section A.4.2.2. of the PoA-DD version 01 (Ref /1A/) dated on 21/03/2012. This revision of is in agreement with justification of “<i>Retrofit</i>” and “<i>Replacement</i>” in section E.2 of the same PoA document. This is satisfied.</p>	& CL03	
w. In CDM-SSC-PoA-DD section E.3 is description of the sources and gases included in the SSC-CPA boundary, provided?	EB 33	Ann 43	Yes, the description on the sources and gases in CPA boundary are provided.	OK.	OK.



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x. In CDM-SSC-PoA-DD section E.4 is description of how the baseline scenario is identified and description of the identified baseline scenario, provided?	EB 33	Ann 43	Yes, the baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.	OK.	OK.
y. In CDM-SSC-PoA-DD section E.5 are the following provided?	-	-	-	-	
i. Assessment and demonstration of additionality for a typical SSC-CPA.	EB 33	Ann 43	<p><u>CAR06</u> As indicated in section E.5 of the PoA-DD, the title of document with reference to EB 63 annex 24 is incorrect.</p> <p>At the 2<sup>nd</sup> response from PPs on 30/04/2012, the PoA-DD has been revised to EB63, Annex 24, Attachment A of Appendix B of the “Simplified modalities and procedures for small-scale CDM project activities”. DOE found this revision is correct.</p> <p>The CAR06 is closed on 11/05/2012.</p>	CAR06	OK.
ii. Key criteria and data for assessing additionality of a SSC-CPA	EB 33	Ann 43	<p><u>CL08</u> As indicated in section E.5.2, please further elaborate on how automatic additionality would be objectively justified in term of “specific condition to be met” (derived from defined eligibility criteria, if appropriate) and/or “likely evidence/supporting document” that CME would further request from the next CPA project owner in order to support its claims regarding automatic additionality.</p>	CL08	OK.



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			At the 1 <sup>st</sup> response from PPs on 20/03/2012, the justification made clear to DOE that Solar PV technology is fall under “ <i>positive list</i> ” defined by EB63 annex 24 which no further requested to demonstrate its additionality. This justification is in line with afore-mentioned EB and satisfied.		
			The CL08 is closed on 21/03/2012		
z. In CDM-SSC-PoA-DD section E.6 are the following provided?	-	-	-	-	-
i. Explanation of methodological choices, provided in the approved baseline and monitoring methodology applied, selected for a typical SSC-CPA	EB 33	Ann 43	Yes. The explanation to the selected methodology is provided.	OK.	OK.
ii. Equations, including fixed parametric values, to be used for calculation of emission reductions of a SSC-CPA	EB 33	Ann 43	<p><u>CAR07</u> As indicated in section E.6.2 of the PoA-DD, the data used in calculation of the operating margin (OM) is <u>not</u> the most recent available data at the time of submission of PoA-DD/CPA-DD document to DOE for validation and the publication with reference to TGO is <u>not</u> the most updated.</p> <p>At 1<sup>st</sup> response, project participant had made revision referring to most updated TGO publication. This is accepted and closed.</p> <p><u>CL09</u> 1) With reference to description in section A.4.2.1 of the PoA-DD that the project would involve the <u>capacity expansion at existing facility</u>,</p>	<p>CAR07</p> <p>CL09</p>	<p>OK.</p> <p>OK.</p>





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		<p>please further clarify its linkage to para 15 and 18 of methodology AMS-I.D version 17 and how it would relate to the description of technology to be employed, eligibility criteria, calculation of emission reduction, data/parameter to be reported, monitoring parameter, and/or any relevant section of PoA-DD/CPA-DD</p> <p>2) As description of “<b>leakage</b>” provided in section A.4.2.1, please clarify on how this information related to the description of technology to be employed, eligibility criteria, and/or any relevant section of the PoA-DD</p> <p>At the 2<sup>nd</sup> response from PPs, the PoA-DD version 01 (Ref /1A/) dated on 30/04/2012 has been revised accordingly. The eligibility criterion (I) stated that a project activity that includes any transferred equipment will not be eligible for inclusion (in its entirety). DOE considered this is in line with description provided in section A.4.2.1 that the project activity would be “<i>newly-built</i>”. This is accepted and CL09 is closed.</p> <p><u>CL12</u> As per section E.6.2 of the PoA-DD version 01 (Ref /1A/) dated 21/03/2012, please clarify on how these following parameters related to other sections of PoA-DD, specific CPA-DD and generic CPA-DD in term of, including but not limit to, data to be reported, data available at time of validation, data</p>	CL12	OK.
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			<p>to be monitored, etc.</p> <ul style="list-style-type: none"> <li>- <math>EG_{PJ, facility, y}</math></li> <li>- <math>EG_{historical}</math></li> <li>- <math>\sigma_{historical}</math></li> <li>- <math>DATE_{BaselineRetrofit}</math></li> </ul> <p>At 2<sup>nd</sup> response by project participant, these following revision had been reviewed by DOE and satisfied;</p> <ul style="list-style-type: none"> <li>- Introduction of "<math>EF_{grid, CM, y}</math>" at the end of <math>EF_{CO2, grid}</math></li> <li>- Sources of data to be used and comment for parameter <math>\sigma_{historical}</math></li> <li>- Sources of data to be used for parameter <math>EG_{historical}</math></li> <li>- Revision in source of data used, justification of the choice of data or description of measurement methods and procedures actually applied and comment for the parameter <math>DATE_{BaselineRetrofit}</math></li> <li>- Correction in "<i>For capacity addition</i>" at CPA-DD</li> </ul> <p>Therefore, the CL12 is closed.</p>		
iii. Data and parameters that are to be reported in CDM-SSC-CPA-DD form	EB 33	Ann 43	<p>Please refer to CAR07 for the term "<math>EF_{CO2, grid, y}</math>", CL09 for the term "<b><i>capacity expansion at the existing facility</i></b>" and CL12 for the term "<b><i>data to be reported</i></b>"</p> <p>Upon closure of CAR07, CL09, and CL12, issues</p>	CAR07, CL09, CL12	OK.



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			on data and parameter that are to be reported in CDM-SSC-CPA-DD form are closed.		
aa. In CDM-SSC-PoA-DD section E.7 are the following provided?	-	-	-	-	
i. Data and parameteres to be monitored by each SSC-CPA.	EB 33	Ann 43	<p>Yes, parameter “<b>EG<sub>facility,y</sub></b>” is subject to be monitored</p> <p>Please refer to CL09 regarding required monitoring parameter by AMS-I.D, which is related to the term “<b>capacity expansion at the existing facility</b>”</p> <p>At its 2<sup>nd</sup> response from PPs, parameter “<b>EG<sub>PJ,facility,y</sub></b>” is introduced to capture parameter needed to be monitored for capacity expansion at the existing facility. DOE considered this is satisfied and in line with description provided in earlier section of the PoA-DD.</p> <p><b>CL10</b> As indicated in page 11 of AMS-I.D version 17, please clarify on how is guidance in para 17 of EB61 annex 21 taken into account in defining of calibration of electricity meter used in monitoring of EG<sub>facility,y</sub>.</p> <p>At its 2<sup>nd</sup> response from PPs, description of EG<sub>BL,y</sub> and EG<sub>PJ,facility,y</sub> are specifies that the electricity meter will be calibrated in accordance with the Provincial Electricity Authority (PEA) standards (i.e. national standards). DOE considered this revision is in line with paragraph 17 of EB61 annex 21 and</p>	CL10	OK.



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			this CL10 is closed.		
ii. Description of the monitoring plan for a SSC-CPA.	EB 33	Ann 43	Yes, description of monitoring plan is described.  With reference to GRT office visit on 24/03/2012, It's confirmed that QA/QC procedure will be implemented by CDM plant manager.	OK.	OK.
bb. In CDM-SSC-PoA-DD section E.8 is date of completion of the application of the baseline study and monitoring methodology and the name of responsible, provided?	EB 33	Ann 43	Yes, date of completing the baseline study and monitoring methodology on 26/12/2012. Biosphere Capital Pte Ltd (BC) is responsible in preparation of the PoA.	OK.	OK.
cc. In CDM-SSC-PoA-DD Annex 1 are following provided?	-	-	-	-	
i. Contact information of project participants	EB 33	Ann 43	Yes, GRT Energy Co., Ltd. and Tricorona Carbon Asset Management Pte Ltd are provided.	OK.	OK.
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 33	Ann 43	<u>CL11</u> Please clarify the discrepancy of the address of GRT Energy Co., Ltd. as indicated in annex 1 of the PoA-DD with respect to company registration document (Ref /15/)  At the 1 <sup>st</sup> response from PPs on 20/03/2012, address in annex 1 of the PoA-DD version 01 (Ref /1A/) dated on 21/03/2012 is in line with company registration document.	<del>CL14</del>	OK.
dd. In CDM-SSC-PoA-DD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not	EB 33	Ann 43	Not applicable.	OK.	OK.



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counted towards the financial obligations of those Parties provided?					
ee. In CDM-SSC-PoA-DD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 33	Ann 43	Refer to CAR07 above.  Upon closure of CAR07 above, the background information of baseline is correct.	CAR07	OK.
ff. In CDM-SSC-PoA-DD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 33	Ann 43	Not applicable.	OK.	OK.
<b>4. Project description</b>					
a. Does the PoA-DD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	Upon closure of CARs and CLs issued above, the PoA-DD contain clear description of the project activity providing the reader with precise information of project activity and technical detail	OK.	OK.
b. Is the description of the proposed CDM project activity as contained in the PoA-DD:	-	-	-	-	-
i. sufficiently covering all relevant elements?	VVM	59	Upon closure of CARs and CLs issued above, description of this PoA contained sufficient information covering all relevant elements	OK.	OK.
ii. accurate?	VVM	59	Refer to CAR07 above.  Upon closure of CAR07 above, description on grid emission factor is accurate. It's confirmed that description provided in PoA-DD is accurate.	CAR07	OK.
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Yes, combined with closure of CARs and CLs issued earlier, the PoA-DD providing the reader with a clear understanding	OK.	OK.
iv. Are there any changes/modifications compared to the webhosted POA-DD/CPA-DD?	VVM	59	As result of closure of CARs and CLs during validation process, these following section had been changed/modified;	OK.	OK.



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		<p><u>Section A.4.2.2.</u></p> <ul style="list-style-type: none"><li>• Eligibility criteria for inclusion of SSC-CPA in the PoA</li></ul> <p><u>Section A.4.4.1</u></p> <ul style="list-style-type: none"><li>• Inclusion of Table 4 : PoA-management System</li></ul> <p><u>Section B.1</u></p> <ul style="list-style-type: none"><li>• Change in start in crediting period</li><li>• Change in start date of 1<sup>st</sup> CPA</li></ul> <p><u>Section C.3</u></p> <ul style="list-style-type: none"><li>• Revision in environmental impact from CPA</li></ul> <p><u>Section E.6.2</u></p> <ul style="list-style-type: none"><li>• Revision in Thailand Grid Emission Factor</li></ul> <p><u>Section E.6.3.</u></p> <ul style="list-style-type: none"><li>• Revision and correction in parameter to be reported</li></ul> <p><u>Section D.7.1</u></p> <ul style="list-style-type: none"><li>• Revision in parameter to be monitored.</li></ul>		
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c. Is the proposed CDM project activity in existing facilities or utilizing existing equipments?	VVM	60	<p>With reference to statement in section A.4.2.1, the PoA project would involve capacity expansion at existing facilities.</p> <p>Please see CL09 above for detail.</p> <p>Upon closure of CL09 above, this issue is closed. It's confirmed that the PoA would involve capacity addition,</p>	CL09	OK.
d. Is the CDM project activity one of the following types:	-	-	-	-	
i. Large scale?	VVM	60	<p>No, CPAs under PoA would involve small scale project</p> <p>It's confirmed by PPs that CPAs under PoA would involve small-scale and also microscale project.</p>	CL02	OK.
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	No, the PoA-DD described that there would be possibility to have more than one project activity bundle in one CPA.	OK.	OK.





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iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	<p>Yes, according to PoA-DD, it could be numerous of small-scale (and/or micro-scale) projects bundled within one CPA with total installed capacity in each CPA shall not exceeding 15 MW.</p> <p>It's confirmed by PPs that this PoA would consist of both small-scale and micro-scale project.</p> <p>Please refer to CL03 above regarding how CME ensures that the bundled project activities within one CPA would remain in small-scale threshold throughout crediting period.</p>	CL02& CL03	OK
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the PoA-DD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	Yes, physical site inspection for CPA No.001 and CME office (i.e., GRT Energy Co.,Ltd.) visit has been conducted during 23/04/2012 to 24/03/2012 at Wangkhonkwang sub-district, Khoksamrong District, Lopburi Province, Thailand	OK.	OK.
f. If yes to (d.iii) above, was the number of physical site visits base on sampling?	VVM	60	No.	OK.	OK.
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	Not applicable.	-	-
h. For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	61	Not applicable.	-	-
i. For all other proposed CDM project activities not referred in issues above, and for other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes	VVM	62	Not applicable.	-	-



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per year, was a physical site inspection conducted?					
j. If no, was it appropriately justified?	VVM	62	Not applicable.	-	-
k. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	With reference to statement in section A.4.2.1 of the PoA-DD version 1 dated on 26/12/2011, the inclusion of the next CPA would possibly involve capacity expansion at existing facilities	OK.	OK.
l. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	Yes,	OK.	OK.
<b>5. Baseline and monitoring methodology</b>			<b>GRT Energy Small – scale Solar PV (PoA)</b>		
<b>a. General requirement</b>					
a. Does the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Yes, AMS-I.D version 17 has been approved by CDM Executive board and still active since from 17 June 11 onward	OK.	OK.
b. Is the selected methodology applicable to the project activity?	VVM	66	Refer to section (5.b.b) below	-	-
c. Had the PP correctly applied the selected methodology?	VVM	66	Refer to section (5.b.d) below	-	-
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to section (5.c) below.	-	-
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to section (5.d) below.	-	-
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to section (5.e) below.	-	-
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Refer to section (6) below.	-	-



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h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Refer to CL09 above  Upon closure of CL09 above, it's confirmed that project participant correctly applied with respect to monitoring methodology	CL09	OK.
<b>b. Applicability of the selected methodology to the project activity</b>			<b>GRT Energy Small – scale Solar PV (PoA)</b>		
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity including that the used version is valid?	VVM	68	Yes, AMS-I.D version 17 chosen by project participants has been approved by the CDM Executive Board and still in active since from 17 June 11 onward	OK.	OK.
b. Are the applicability conditions of the methodology met?	-	-	-	-	-
i. Does the project activity comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to a national or a regional grid? Note: Project activities that displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit shall apply AMS-I.F.	AMS	I. D	Yes, PPs made clear statement that all the CPAs to be included in the current PoA are solar photovoltaic projects that will supply electricity to the national grid.	OK.	OK.
ii. Has the project participant provided justification in line with the applicability of methodology with respect to Table 2 of approved methodology?	AMS	I. D	Yes, at the 1 <sup>st</sup> response from PPs on 21/03/2012, the justification on applicability of PoA towards AMS-I.D version 17 is provided in the PoA-DD version 1.0 (Ref <b>/1A/</b> ) dated on 21/03/2012. PPs made statement that the current PA aims to promote project activities that supplies electricity to national/regional grid.	CAR05	OK.



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<p>iii. Does the project activity</p> <p>a. install a new power plant at site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant);</p> <p>b. involve a capacity addition</p> <p>c. involve a retrofit of (an) existing plant(s) or</p> <p>d. involve a replacement of (an) existing plant(s)</p>	AMS	I. D	<p>The CPAs will comprise of newly-built solar PV power and capacity expansion at existing facilities.</p> <p>Please refer to CL03 for the clarification requested to the term “<b>retrofit</b>” and “<b>replacement</b>”</p> <p>Upon closure of CL03 above, clarification regarding the term “retrofit” and “replacement” are clear and satisfied. This issue is closed.</p>	CL03	OK.
<p>iv. For Hydro power plants with reservoirs, does it satisfy at least one of the following conditions</p> <p>a. the project activity is implemented in an existing reservoir with no change in the volume of reservoir</p> <p>b. the project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, is greater than 4 W/m<sup>2</sup></p> <p>c. the project activity results in new reservoirs and the power density of the power plant is greater than 4 W/m<sup>2</sup>.</p>	AMS	I. D	Not applicable.	-	-
<p>v. Is the following guideline followed:</p> <p>a. If the new unit has both renewable and non-renewable components (eg., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component.</p> <p>b. If the new unit co-fires fossil fuels, the</p>	AMS	I. D	Not applicable.	-	-



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capacity of the entrie unit shall not exceed the limit of 15 MW.					
vi. Is the following guideline followed: a. Combined heat and power (co-generation) systems are not eligible under this category	AMS	I. D	Yes, combined heat is not eligible under this PoA	OK.	OK.
vii. Is the following guideline followed: a. In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing	AMS	I. D	Yes, addition of renewable energy is eligible under this PoA	OK.	OK.
viii. Is the following guideline followed: a. In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	AMS	I. D	Refer to CL03 for the clarification requested to the term " <b>retrofit</b> " and " <b>replacement</b> "  Upon closure of CL03 above, clarification regarding the term "retrofit" and "replacement" are clear and satisfied. This issue is closed.	CL03	OK.
c. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	Yes, general guidelines to SSC CDM methodologies in particular of monitoring have been applied.	OK.	OK.
d. Is the methodology correctly quoted?	VVM	70	Refer to CAR04 above.  Upon closure of CAR04 above, the methodology is correctly quoted.	CAR04	OK.



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e. Is the proeject activity expected to result in emissions other than those allowed by the methodology?	VVM	71	DOE conducted onsite visit at location of CPA-001 at Wangkhonkwang Sub-district, Khoksamrong District, Lopburi Province, Thailand on 23/03/2012. It's confirmed that CPA-001 is not result in other emissions other than those allowed by the methodology.	OK.	OK.
f. Is the choice of the methodology justified?	VVM	71	Yes.	OK.	OK.
g. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	71	Yes.	OK.	OK.
h. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	71	Yes.	OK.	OK.
i. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PoA-DD?	VVM	71	Yes.	OK.	OK.
j. If yes, was the PoA-DD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	71	Yes.  Detail demonstrated in PoA-DD was cross-checked with external governmental link such as, Thailand Greenhouse Gas Management Organization (TGO) and Department of Alternative Energy Development and Efficiency	OK.	OK.
k. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	Yes.	OK.	OK.
l. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	Not applicable.	-	-




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m. If answer to (5.b.l) above is “no”, revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	73	Not applicable.	-	-
n. If yes to (5.b.l) and (5.b.m) above, a request for registration was submitted before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	Not applicable.	-	-
<b>c. Project boundary</b>			<b>GRT Energy Small-scale Solar PV (PoA)</b>		
a. Does the PoA-DD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?	VVM	78	Yes, boundary of PoA is Thailand.	OK.	OK.
i. Does the physical, geographical is the site of the renewable generation?	AMS	I.D	Yes, CPA would be located in Thailand	OK.	OK.
b. Is the delineation in the PoA-DD of the project boundary correct?	VVM	79	Yes, it's correct.	OK.	OK.
c. Does the delineation in the PoA-DD of the project boundary meet the requirements of the selected baseline?	VVM	79	Yes, it met	OK.	OK.
d. Have changes been made to the project boundary in comparison to the webhosted PoA-DD/CPA-DD. If yes please comment on the reason for the changes.	VVM	79	No. There is no change in project boundary compared to webhosted PoA-DD/CPA-DD	OK.	OK.
e. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	79	Yes. All the sources and GHGs for Solar PV technology have been included in the project boundary.	OK.	OK.
f. Does the methodology allow project participant to choose whether a source or gas is to be included	VVM	79	No, there is no option in AMS-I.D that allowing PP to choose.	OK.	OK.





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within the project boundary?					
g. If yes, have the project participants justified that choice?	VVM	79	Not applicable.	-	-
h. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	79	Not applicable.	-	-
<b>d. Baseline identification</b>			<b>GRT Energy Small-scale Solar PV (PoA)</b>		
a. Does the PoA-DD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	81	With reference to evidence found at onsite visit on 23/03/2012, DOE agreed that baseline for PoA is reasonable.	OK.	OK.
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	82	-	-	-
i. Is the following guideline followed: Is the project activity new grid-connected renewable power plant/unit and hence the baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources.	AMS	I.D	Yes, section E.4 of the PoA-DD version 01 (Ref /1A/) dated on 21/03/2012 clearly stated that the baseline scenario is the electricity delivered to the grid by project activity would have otherwise been generated by the operation of grid-connected power and by the addition of new generation sources into the grid.	OK.	OK.
ii. Is the baseline emissions calculated as the product of electrical energy baseline $EG_{BL,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission $BE_y = EG_{BL,y} \times EF_{CO2, grid,y}$	AMS	I.D	Yes, this calculation is indicated in section E.6.2 as follow;    Where	OK.	OK.

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			$BE_y$	Baseline Emissions in year y (t CO <sub>2</sub> )		
			$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)		
			$EF_{CO_2,grid,y}$	CO2 emission factor of the grid in year y (t CO <sub>2</sub> /MWh)		



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iii. Is the Emission Factor calculated in a transparent and conservative manner as follows: (a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the <i>Tool to calculate the Emission Factor for an electricity system</i> . OR (b) The weighted average emissions (in t CO <sub>2</sub> /MWh) of the current generation mix. The data of the year in which project generation occurs must be used. Calculations shall be based on data from an official source (where available) and made publicly available.	AMS	I.D	Yes, the emission factor is calculated following a combined margin (CM) according to the " <i>Tool to calculate the emission factor for an electricity system</i> "	CAR07	OK.
iv. Is the following guideline followed: - In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. - If the recovered methane is used for electricity generation for supply to a grid then the baseline shall be calculated in accordance with paragraphs below else use other applicable type I methodologies such as AMS-I.A or AMS-I.F. - If the recovered methane is used for heat generation or cogeneration it is eligible under category I.C.	AMS	I.D	Not applicable.	-	-
v. Is the following guideline followed for project activities that involve retrofits or replacements of an existing facility for renewable energy	AMS	I.D	Not applicable.	-	-



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<p>generation:</p> <ul style="list-style-type: none"> <li>- The baseline scenario is the continuing operation of the existing plant.</li> <li>- The methodology uses historical electricity generation data to determine the electricity generation of the existing plant in the baseline scenario, assuming that the historical situation observed prior to the implementation of the project activity would continue. In the absence of the CDM project activity, the existing facility would continue to provide electricity to the grid <math>EG_{BL,retrofit,y}</math> at historical average levels <math>EG_{historical,y}</math> until the time at which the electrical generation facility would be likely to be replaced or retrofitted in the absence of the CDM project activity (<math>DATE_{Baseline,Retrofit}</math>). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and baseline electricity production is assumed to equal the project's net electricity production and no emission reductions are assumed to occur.</li> </ul>					
<p>vi. Is the following guideline followed for Retrofit/capacity addition of hydro, solar, wind, geothermal, wave and tidal plants:</p> <ul style="list-style-type: none"> <li>- Use of standard deviation for calculating baseline electricity generation.</li> <li>- A minimum of 5 years (60 months) (excluding abnormal years) of historical generation data is required in the case of hydro facilities and for other facilities a minimum of 3 years (36 months) data is required.</li> </ul>	AMS	I.D	<p>Yes, the capacity addition of solar photovoltaic is following this guideline as presented below.</p> <p><i>Before</i></p> <p>Where:</p> <p><i>EG<sub>BL,retrofit,y</sub></i></p>		



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<p>- In the case that 5 years of historical data are not available - e.g., due to recent retrofits or exceptional circumstances<sup>8</sup> - a new methodology or methodology revision shall be proposed.</p> <p>- In the case of wind, solar, wave or tidal power plants, the electricity produced by the added power plant(s) or unit(s) could be directly metered and used to determine <math>EG_{BL,y}</math>, provided that the electricity produced by the added power plant(s) or unit(s) addition is separately metered.</p> <p>- Project activities for capacity addition in hydro or geothermal shall use equation 3 replacing subscript .retrofit. with .capacity addition.</p>		<p><math>EG_{BL,retrofit,y} = 0</math> on / after <math>DATE_{BaselineRetrofit}</math></p> <p>Where,</p> <p><math>EG_{BL,retrofit,y}</math> Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)</p> <p><math>EG_{PJ,facility,y}</math> Quantity of net electricity supplied to the grid by the project plant/unit in year y (MWh)</p> <p><math>EG_{historica}</math> Annual average historical net electricity generation by the existing renewable energy plant that was operated at the project site prior to the implementation of the project activity (MWh)</p> <p>Average of historical net electrical energy levels delivered by the existing facility, spanning all data from the most recent available year (or month, week or other time period) to the time at which the facility was constructed, retrofit, or modified in a manner that significantly affected output (i.e. by 5% or more), shall be used.</p> <p>To determine <math>EG_{historica}</math>, project participants may choose between the following two historical periods (This allows some flexibility; the use of the longer time period may result in a lower</p>	
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			<p>standard deviation and the use of the shorter period may allow a better reflection of the (technical) circumstances observed during the more recent years).</p> <p>(a) The three last calendar years (five calendar years for hydro project) prior to the implementation of the project activity; or</p> <p>(b) The time period from the calendar year following <i>DATEhist</i>, up to the last calendar year prior to the implementation of the project, as long as this time span includes at least three calendar years (five calendar years for hydro project), where <i>DATEhist</i> is latest point in time between:</p> <p>(i) The commercial commissioning of the plant/unit;</p> <p>(ii) If applicable: the last capacity addition to the plant/unit; or</p> <p>(iii) If applicable: the last retrofit of the plant/unit</p> <p><math>\sigma_{\text{historical}}</math> Standard deviation of the annual average historical net electricity supplied to the grid by the existing renewable energy plant that was operated at the project site prior to the implementation of the project activity (MWh)</p>		
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			<i>DATE</i> <i>Baseline</i> Point in time when the existing equipment would need to be replaced in the absence of the project activity (date)		
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vii.	Is the following guideline followed for Retrofit renewable energy units other than hydro, solar, wind, geothermal, wave and tidal plants: Baseline emissions are calculated as: $BE_{\text{retrofit},CO2,y} = (EG_{PJ,\text{retrofit},y} - EG_{BL,\text{retrofit},y}) \times EF_{CO2}$ EG historical - A minimum of 3 years of data is required. In the case that 3 years of historical data are not available 9- e.g., due to recent retrofits or exceptional circumstances - a new methodology or methodology revision shall be proposed	AMS	I.D	Not applicable.	-	-
viii.	Is the requirements concerning demonstration of the remaining lifetime of the replaced equipment met as described in the general guidelines to SSC methodologies? Note: If the remaining lifetime of the affected systems increases due to the project activity, the crediting period shall be limited to the estimated remaining lifetime, i.e., the time when the affected systems would have been replaced in the absence of the project activity.	AMS	I.D	Not applicable, this PoA doesn't involve replacement of the existing equipment.	OK.	OK.
ix.	Is the following guideline followed for Capacity addition with renewable energy units other than hydro, solar, wind, geothermal, wave and tidal plants: - The baseline scenario is the existing facility that would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted ( $DATE_{\text{BaselineRetrofit}}$ ). - If the existing units shut down, are derated, or	AMS	I.D	Not applicable.	-	-



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otherwise become limited in production, the project activity should not get credit for generating electricity from the same renewable resources that would have otherwise been used by the existing units (or their replacements).					
x. Does project activity involve co-firing ? If yes, the quantities and types of biomass and biomass to fossil fuel ratio to be used during crediting period is explained and documented transparently and presented in PoA-DD? Are ex ante estimation of these values provided in the PoA-DD?	AMS	I.D	No. This PoA doesn't involve co-firing.	OK.	OK.
c. Does the selected methodology require use of tools (such as the "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?	VVM	82	No, there is no requirement to use other tools to establish baseline scenario.	OK.	OK.
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	82	Not applicable.	-	-
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	No, it doesn't.	OK.	OK.
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM project activity?	VVM	83	Not applicable.	-	-
g. Has any reasonable alternative scenario been excluded?	VVM	83	Not applicable.	-	-



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h. Is the baseline scenario identified reasonably supported by:	VVM	84			
i. Assumptions?	VVM	84	Yes, an assumption for baseline on this PoA is reasonable.	OK.	OK.
ii. Calculations?	VVM	84	Yes, calculation of the baseline as per following expression is correct.  <i>B<sub>3</sub>EECFE<sub>2</sub>CFE<sub>2</sub></i>	OK.	OK.
iii. Rationales?	VVM	84	Yes, it's rational	OK.	OK.
i. Are the documents and sources referred to in the PoA-DD correctly quoted and interpreted?	VVM	84	Refer to CAR03 and CL07 above.  Upon closure of CAR03 and CL07 above, it's confirmed that data and sources referred to in the PoA-DD are correctly quoted and interpreted.	CAR03 & CL07	OK.
j. Was the information provided in the PoA-DD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	84	Not applicable.	-	-
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	85	Yes.	OK.	OK.
l. Have all relevant policies and circumstances been identified and correctly considered in the PoA-DD, in accordance with the guidance by the CDM Executive Board?	VVM	85	Refer to CL01 above.  Upon closure of CL01 above, the relevant policies had been identified in determination of baseline scenario.	CL01	OK.
m. Does the PoA-DD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take	VVM	86	Refer to CL03 and CL09 above.  Upon closure of CL03 and CL09 above, It's confirmed that PoA-DD provides verifiable	CL03 & CL09	OK.



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place in the absence of the proposed CDM project activity?			description.		
<b>e. Algorithms and/or formulae used to determine emission reductions</b>			<b>GRT Energy Small-scale Solar PV (PoA)</b>		
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	89	Refer to CL03, CL09 and CAR07 above.  Upon closure of CL03, CL09 and CAR07, it's confirmed that equation applied to baseline emission is correctly applied with AMS-I.D	CL03, CL09 & CAR07	OK.
b. Have the equations and parameters in the POA-DD been correctly applied with respect those in the select approved methodology?	VVM	90	-	-	
i. Have project emissions considered as described in recent version of ACM0002 followed for: - Emissions related to the operation of geothermal power plants; - Emissions from water reservoirs of hydro power plants.	AMS	I.D	Yes, as stated in ACM0002 – this PoA takes emission from water reservoirs of hydro power plant into accounts and provided in section E.3.	OK.	OK.
ii. Is leakage considered, if the energy generating equipment is transfereed from another activity	AMS	I.D	Yes, the condition of leakage is considered and indicated in section E.6.1.  Please refer to CL09 above. Upon closure of CL09 above, the consideration of leakage is correct.	CL09	OK.
iii. Is emission reduction calculated as per equation $ER_y = BE_y - PE_y - LE_y$	AMS	I.D	Yes, it's correct.	OK.	OK.
c. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	Yes, AMS-I.D provides different options for equation or parameter.	OK.	OK.
d. If yes, has adequate justification been provided	VVM	90	Please refer to CL03 and CL09 above.	CL03 &	OK.



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(based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?			Upon closure of CL03 and CL09, this issue is closed.	CL09							
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	90	Please refer to CL03 and CL09 above. Upon closure of CL03 and CL09, this issue is closed.	CL03 & CL09	OK.						
f. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	91	Yes, these following parameter will be monitored throughout the crediting period; - $EG_{BL,y}$ - $EG_{PJ, facility,y}$	OK.	OK.						
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91	Not applicable.	-	-						
i. Appropriate and correct?	VVM	91	Not applicable.	-	-						
ii. Applicable to the proposed CDM project activity?	VVM	91	Not applicable.	-	-						
iii. Resulting in a conservative estimate of the emission reductions?	VVM	91	Not applicable.	-	-						
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	Yes, $EG_{BL,y}$ and $EG_{PJ, facility,y}$ will be available after project implementation.	OK.	OK						
i. If yes, are the estimates provided in the PoA-DD for these data and parameters reasonable?	VVM	91	Yes, estimation for $EG_{BL,y}$ and $EG_{PJ, facility,y}$ are reasonable. Based on instruction provided in PoA-DD, It's likely to believe that these parameters would be appropriately monitored.	OK.	OK.						
			<table><tr><td>Data / Parameter:</td><td><math>EG_{BL,y}</math> ,</td></tr><tr><td>Data unit:</td><td>MWh/year</td></tr><tr><td>Description:</td><td>Quantity of net electricity supplied to the grid in year y</td></tr></table>	Data / Parameter:	$EG_{BL,y}$ ,	Data unit:	MWh/year	Description:	Quantity of net electricity supplied to the grid in year y		
Data / Parameter:	$EG_{BL,y}$ ,										
Data unit:	MWh/year										
Description:	Quantity of net electricity supplied to the grid in year y										



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			Source of data to be used:	Measured by electricity meters
			Value of data applied for the purpose of calculating expected emission reductions in section B.5	To be specified in each CPA-DD
			Description of measurement methods and procedures to be applied:	Continuous monitoring, hourly measurement and at least monthly recording. The net electricity supplied to a grid is the difference between the measured quantities of the grid electricity export ( $EG_{exp,y}$ ) and the import ( $EG_{imp,y}$ ): $EG_{BL,y} = EG_{exp,y} - EG_{imp,y}$
			QA/QC procedures to be applied:	Meters will be calibrated at appropriate intervals according to the PEA standards (i.e. national standards) . Measurement results shall be cross checked with records for sold/purchased electricity.
			Any comment:	This data will be archived up to 2 years after the completion of crediting period or last issuance whichever is later.

<b>Data / Parameter:</b>	$EG_{PJ, facility,y}$
Data unit:	MWh
Description:	Quantity of net electricity supplied to the grid by the project plant/unit in year y



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				(MWh)	
			Source of data to be used:	Measured by electricity meters	
			Value of data applied for the purpose of calculating expected emission reductions in section B.5	To be specified in each CPA-DD	
			Description of measurement methods and procedures to be applied:	Continuous monitoring, hourly measurement and at least monthly recording. The net electricity supplied to a grid is the difference between the measured quantities of the grid electricity export ( $EG_{exp,y}$ ) and the import ( $EG_{imp,y}$ ): $EG_{PJ, facility,y} = EG_{exp,y} - EG_{imp,y}$	
			QA/QC procedures to be applied:	Meters will be calibrated at appropriate intervals according to the PEA standards (i.e. national standards) . Measurement results shall be cross checked with records for sold/purchased electricity	
			Any comment:	This data will be archived up to 2 years after the completion of crediting period or last issuance whichever is later.	





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<b>6. Additionality of a project activity</b>			<b>GRT Energy Small-scale Solar PV (PoA)</b>		
a. Does the PoA-DD describe how a proposed CDM project activity is additional?	VVM	94	Yes, PoA-DD described that CPA would satisfy <b>"Attachment A of appendix B"</b> in order to justify themselves as automatic additionality.	OK.	OK.
b. Does the PoA-DD demonstrate by establishing that in the absence of CDM, none of implemented CPAs would occur?	EB 65	Ann 3	Yes. The additionality has been demonstrated through eligibility criteria.	OK.	OK.
c. Does the PoA-DD consist of one or more microscale project as CPA? If yes, eligibility criteria derived from all the relevant requirement of the "Guideline for demonstrating additionality of microscale project activities" shall be included	EB 65	Ann 3	Refer to CL02 above.  It's made clear by 1 <sup>st</sup> response from PP on 20/03/2012 that micro-scale Solar PV project will not preclude from rule governing small-scale Solar PV project. DOE satisfied with this justification.	CL02	OK.
d. Does the PoA-DD consist of one or more small-scale projects as CPAs? If yes, eligibility criteria derived from all the relevant requirements of attachment A of appendix B of the "Simplified modalities and procedures from small-scale CDM project activities" shall be included.	EB 65	Ann 3	Yes, PoA involves one or more small-scale CPA	OK.	OK.
e. Does the PoA-DD consist of one or more large scale project as CPAs? If yes, eligibility criteria derived from all the relevant requirements contained in the additionality section of the large scale methodologies shall be included.	EB 65	Ann 3	No. This PoA is not including the large scale CPA	OK.	OK.
f. Does project activity in PoA-DD fall within positive list of grid-connected renewable electricity generation technologies and these following criteria are met;	EB 63	Ann 24	Yes, the solar PV power plant is fall within positive list.	OK.	OK.
i. Solar technologies (photovoltaic and solar thermal electricity generation) with install capacity up to 15 MW	EB 63	Ann 24	Yes, the PoA-DD described that the maximum installed capacity of solar PV power plant is up to 15 MW.	OK.	OK.



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ii. Off-shore wind technologies with install capacity up to 15 MW	EB 63	Ann 24	No. The off-shore wind technologies is not included in this PoA	OK.	OK.
iii. Marine technologies (wave, tidal) with install capacity up to 15 MW	EB 63	Ann 24	No, the marine technologies is not included in this PoA	OK.	OK.
g. If yes to at least one of three above, does project activity in PoA-DD demonstrate itself as automatically additional?	EB 63	Ann 24	Yes, the section E.5.1 demonstrates its automatic additionality following EB63 annex 24.	OK.	OK
h. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10	-	-	-
i. Identification of alternatives to the project activity?	EB 39	Ann 10	Not applicable.	-	-
ii. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	Not applicable.	-	-
iii. Barriers analysis?	EB 39	Ann 10	Not applicable.	-	-
iv. Common practice analysis?	EB 39	Ann 10	Not applicable.	-	-
i. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10	-	-	-
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Not applicable.	-	-
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Not applicable.	-	-
j. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10	-	-	-
i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Not applicable.	-	-
ii. (b) Other realistic and credible alternative	EB	Ann	Not applicable.	-	-



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scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	39	10			
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Not applicable.	-	-
k. Has the project participant included the technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	EB 39	Ann 10	Not applicable.	-	-
l. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Not applicable.	-	-
m. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Not applicable.	-	-
n. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are	EB 39	Ann 10	Not applicable.	-	-



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systematically not enforced and that noncompliance with those requirements is widespread in the country?					
o. Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	Not applicable.	-	-
p. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	Not applicable.	-	-
q. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10	-	-	
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Not applicable.	-	-
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	Not applicable.	-	-
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	Not applicable.	-	-
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Not applicable.	-	-
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	Not applicable.	-	-
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Not applicable.	-	-
r. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10	-	-	-



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i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	Not applicable.	-	-
ii. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	Not applicable.	-	-
s. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	Not applicable.	-	-
t. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify	EB 39	Ann 10	Not applicable.	-	-
u. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	-	-	-
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	Not applicable.	-	-
ii. When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a	EB 39	Ann 10	Not applicable.	-	-



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particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.					
iii. Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately	EB 39	Ann 10	Not applicable.	-	-



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justified. Please specify benchmark and justify.					
v. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10	-	-	-
i. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.	EB 39	Ann 10	Not applicable.	-	-
ii. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PoA-DD/CPA-DD, or in separate annexes to the CDM-PoA-DD/CPA-DD.	EB 39	Ann 10	Not applicable.	-	-
iii. Justify and/or cite assumptions.	EB 39	Ann 10	Not applicable.	-	-
iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	Not applicable.	-	-
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences	EB 39	Ann 10	Not applicable.	-	-





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can be well substantiated.					
vi. Present in the CDM-PoA-DD/CPA-DD a clear comparison of the financial indicator for the proposed CDM activity. Please specify details for above.	EB 39	Ann 10	Not applicable.	-	-
w. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.	EB 39	Ann 10	Not applicable.	-	-
x. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Not applicable.	-	-
y. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10	-	-	-
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	Not applicable.	-	-
ii. Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	Not applicable.	-	-
z. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10	-	-	-
i. (a) Investment barriers: For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to	EB 39	Ann 10	Not applicable.	-	-



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real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.					
ii. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.	EB 39	Ann 10	Not applicable.	-	-
iii. (c) Barriers due to prevailing practice: The project activity is the "first of its kind".	EB 39	Ann 10	Not applicable.	-	-
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	Not applicable.	-	-
aa. Has the outcome from Step 3a clearly mentioned in PoA-DD/CPA-DD?	EB 39	Ann 10	Not applicable.	-	-
bb. Has the below guideline followed for Sub-step 3	EB	Ann	-	-	-



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b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	39	10			
i. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM project activity. In other words, demonstrate that the identified barriers do not prevent the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.	EB 39	Ann 10	Not applicable.	-	-
ii. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	Not applicable.	-	-
iii. The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc; (c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariffs,	EB 39	Ann 10	Not applicable.	-	-



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rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities, technical schools, training centres), industry associations and others. Please specify.					
cc. Has the outcome from Step 3 clearly mentioned in PoPOAA-DD/CPA-DD?	EB 39	Ann 10	Not applicable.	-	-
dd. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10	-	-	-
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	Not applicable.	-	-
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Not applicable.	-	-
ee. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	Not applicable.	-	-
ff. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to	EB 39	Ann 10	Not applicable.	-	-



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barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the POA-DD/CPA-DD should include justification about non-accessibility of data/information.					
gg. Has the outcome from Step 4 clearly mentioned in POA-DD/CPA-DD?	EB 39	Ann 10	Not applicable.	-	-
hh. Has it been proved that the project is additional?	EB 39	Ann 10	Not applicable.	-	-
ii. Has the PP demonstrated additionality by explaining Investment barrier, Access-to-finance barrier, Technological barrier, Barrier due to prevailing practice or other barriers?	EB 35	Ann 34	Not applicable.	-	-
jj. If Investment barrier has been explained, is it demonstrated that more financially viable alternative to the project activity would have led to higher emissions? Please explain.	EB 35	Ann 34	Not applicable.	-	-
kk. If Access-to-finance has been explained, is it demonstrated that the project activity could not access appropriate capital without consideration of the CDM revenues? Please explain.	EB 35	Ann 34	Not applicable.	-	-
ll. If Technological barrier has been explained, is it demonstrated that a less technologically	EB 35	Ann 34	Not applicable.	-	-



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advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions? Please explain.					
mm. If prevailing practise barrier has been explained, is it demonstrated that the prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions? Please explain.	EB 35	Ann 34	Not applicable.	-	-
nn. If other barrier has been explained, is it demonstrated that Other barriers such as institutional barriers or limited information, managerial resources, organizational capacity, or capacity to absorb new technologies would prevent the project activity any way?	EB 35	Ann 34	Not applicable.	-	-
oo. Have the project participants identified the most relevant barrier?	EB 35	Ann 34	Not applicable.	-	-
pp. Have the project participants provided transparent and documented third party evidence such as national/international statistics, national/provincial policy and legislation, studies/surveys by independent agencies etc. to demonstrate the most relevant barrier? Please explain.	EB 35	Ann 34	Not applicable.	-	-



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<b>f. Prior consideration of the clean development mechanism</b>			<b>GRT Energy Small-scale Solar PV (PoA)</b>		
a. Is the project activity start date prior to the date of publication of the PoA-DD for stakeholder comments?	VVM	98	Not applicable.	-	-
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	98	Not applicable.	-	-
c. Is the start date of the project activity, reported in the PoA-DD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM programme activity is the earliest date at which either the implementation or construction or real action of a project activity begins."?	VVM	99	Not applicable.	-	-
d. Does the project activity require construction, retrofit or other modifications?	VVM	99	Not applicable.	-	-
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	Not applicable.	-	-
f. Is it a new project activity (a project activity with a start date on or after 02 August 2008) or an existing project activity (a project activity with a start date before 02 August 2008)?	VVM	100	Not applicable.	-	-
g. For a new project, for which PoA-DD/CPA-DD have not been published for global stakeholder consultation or a new methodology proposed to the CDM Executive Board before the project activity start date, had the PP informed the Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project	VVM	101	Not applicable.	-	-





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activity and of their intention to seek CDM status? (Provide reference to such confirmation from host Party DNA and/or UNFCCC secretariat).					
h. For an existing project activity, for which the start date is prior to the date of publication of the PoA-DD/CPA-DD for global stakeholder consultation, are the following evidences provided:	VVM	102	Not applicable.	-	-
i. evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	102	Not applicable.	-	-
a. minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM project activity?	VVM	101	Not applicable.	-	-
ii. reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	102	Not applicable.	-	-
a. contract with consultants for CDM/POA-DD/CPA-DD/methodology services?	VVM	102	Not applicable.	-	-
b. Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	102	Not applicable.	-	-
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	102	Not applicable.	-	-



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d. submission of a new methodology to the CDM Executive Board?	VVM	102	Not applicable.	-	-
e. publication in newspaper?	VVM	102	Not applicable.	-	-
f. interviews with DNA?	VVM	102	Not applicable.	-	-
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	102	Not applicable.	-	-
h. Has the chronology of events including time lines been appropriately captured and explained/detailed in the PoA-DD/CPA-DD?	VVM	102	Not applicable.	-	-
<b>g. Identification of alternatives</b>			<b>GRT Energy Small Scale Solar PV (PoA)</b>		
a. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	105	No, AMS-I.D selected by PoA prescribes baseline scenario.	OK.	OK.
b. If no, does the PoA-DD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	105	Yes, the PoA-DD described that baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources. This is satisfied and in line with AMS-I.D version 17.	OK.	OK.
c. Does the list of alternatives given in the POA-DD/CPA-DD ensure that:	VVM	106	-	-	-
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity?	VVM	106	Not applicable.	-	-
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services	VVM	106	Not applicable.	-	-



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that are to be supplied by the proposed CDM project activity?					
iii. the alternatives comply with all applicable and enforced legislation?	VVM	106	Not applicable.	-	-
<b><i>h. Investment analysis</i></b>			<b><i>GRT Energy Small Scale Solar PV (PoA)</i></b>		
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	108	No, PoA-DD doesn't describes investment analysis	OK.	OK.
b. If yes, does the POA-DD/CPA-DD provide evidence that the proposed CDM project activity would not be:	VVM	108	-	-	-
i. the most economically or financially attractive alternative?	VVM	108	Not applicable.	-	-
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	108	Not applicable.	-	-
c. Was this shown by one of the following approaches?	VVM	109	No.	OK.	OK.
i. The proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity.	VVM	109	Not applicable.	-	-
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	109	Not applicable.	-	-



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iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	109	Not applicable.	-	-
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 51	Ann 58	Not applicable.	-	-
e. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	Not applicable.	-	-
f. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 51	Ann 58	Not applicable.	-	-
g. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 51	Ann 58	Not applicable.	-	-
h. Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	Not applicable.	-	-
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 51	Ann 58	Not applicable.	-	-
j. Does the fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB 51	Ann 58	Not applicable.	-	-



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k. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 51	Ann 58	Not applicable.	-	-
l. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 51	Ann 58	Not applicable.	-	-
m. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 51	Ann 58	Not applicable.	-	-
n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 51	Ann 58	Not applicable.	-	-
o. Are all the listed input values been consistently applied in all calculations?	EB 51	Ann 58	Not applicable.	-	-
p. Does the investment analysis reflect the economic decision making context at point of the decision to recommence the project in the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM?	EB 51	Ann 58	Not applicable.	-	-
q. Have project participants supplied the spreadsheet versions of all investment analysis?	EB 51	Ann 58	Not applicable.	-	-
r. Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 51	Ann 58	Not applicable.	-	-
s. In cases where the project participant does not	EB	Ann	Not applicable.	-	-



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wish to make such a spreadsheet available to the public has the PP provided an exact read-only or PDF copy for general publication?	51	58			
t. In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 51	Ann 58	Not applicable.	-	-
u. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 51	Ann 58	Not applicable.	-	-
v. In the calculation of equity IRR, has only the portion of investment costs which is financed by equity been considered as the net cash outflow?	EB 51	Ann 58	Not applicable.	-	-
w. Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calculation of equity IRR? (this is not allowed)	EB 51	Ann 58	Not applicable.	-	-
x. Was a pre-tax benchmark be applied?	EB 51	Ann 58	Not applicable.	-	-
y. In cases where a post-tax benchmark is applied, is actual interest payable taken into account in the calculation of income tax?	EB 51	Ann 58	Not applicable.	-	-
z. In such situations, was interest calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years?	EB 51	Ann 58	Not applicable.	-	-
aa. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 51	Ann 58	Not applicable.	-	-



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bb. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 51	Ann 58	Not applicable.	-	-
cc. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 51	Ann 58	Not applicable.	-	-
dd. In case benchmarks supplied by relevant national authorities selected is it applicable to the project activity and the type of IRR calculation presented?	EB 51	Ann 58	Not applicable.	-	-
ee. In the cases of projects which could be developed by an entity other than the project participant is the benchmark applied based on publicly available data sources which can be clearly validated?	EB 51	Ann 58	Not applicable.	-	-
ff. Have internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC) been applied in cases where there is only one possible project developer?	EB 51	Ann 58	Not applicable.	-	-
gg. In such cases, have these values been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 51	Ann 58	Not applicable.	-	-
hh. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 51	Ann 58	Not applicable.	-	-
ii. Has a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past	EB 51	Ann 58	Not applicable.	-	-





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financial behavior of the entity during at least the last 3 years in relation to similar projects been conducted?					
jj. Does the risk premiums applied in the determination of required returns on equity reflect the risk profile of the project activity being assessed, established according to national/international accounting principles? (It is not considered reasonable to apply the rate general stock market returns as a risk premium for project activities that face a different risk profile than an investment in such indices.)	EB 51	Ann 58	Not applicable.	-	-
kk. Has an investment comparison analysis and not a benchmark analysis used when the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services?	EB 51	Ann 58	Not applicable.	-	-
ll. Have variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been presented in the POA-DD/CPA-DD and be reproducible in the associated spreadsheets?	EB 51	Ann 58	Not applicable.	-	-
mm. Have a corrective action been raised for a variable to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis ?	EB 51	Ann 58	Not applicable.	-	-
nn. Is the range of variations selected is reasonable in the project context?	EB 51	Ann 58	Not applicable.	-	-



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oo. Dos the variations in the sensitivity analysis at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances?	EB 51	Ann 58	Not applicable.	-	-
pp. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative, is an assessment done of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity?	EB 51	Ann 58	Not applicable.	-	-
qq. Was the plant load factor defined ex-ante in the CDM-POA-DD/CPA-DD according to one of the following options:	EB 51	Ann 58	Not applicable.	-	-
i. The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval?	EB 51	Ann 58	Not applicable.	-	-
ii. The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 51	Ann 58	Not applicable.	-	-
rr. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices conducted?	VVM	111	Not applicable.	-	-



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ss. Were the parameters cross-checked against third-party or publicly available sources, such as invoices or price indices?	VVM	111	Not applicable.	-	-
tt. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	111	Not applicable.	-	-
uu. Was the correctness of computations carried out and documented by the project participants assessed?	VVM	111	Not applicable.	-	-
vv. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	111	Not applicable.	-	-
ww. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	112	Not applicable.	-	-
xx. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	112	Not applicable.	-	-
yy. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:	VVM	112	Not applicable.	-	-
i. assessing previous investment decisions by the project participants involved?	VVM	112	Not applicable.	-	-
ii. determining whether the same benchmark has been applied?	VVM	112	Not applicable.	-	-
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	112	Not applicable.	-	-



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zz. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activities?	VVM	113	Not applicable.	-	-
xx. If yes:	VVM	113	Not applicable.	-	-
i. has the FSR been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed?	VVM	113	Not applicable.	-	-
ii. Are the values used in the POA-DD/CPA-DD and associated annexes fully consistent with the FSR?	VVM	113	Not applicable.	-	-
iii. If not, was the appropriateness of the values validated?	VVM	113	Not applicable.	-	-
iv. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	113	Not applicable.	-	-
<b>i. Barrier analysis</b>			<b>GRT Energy Small Scale Solar PV (PoA)</b>		
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	115	Not applicable.	-	-
b. If yes, does the PoA-DD/CPA-DD demonstrate that the proposed CDM project activity faces	VVM	115	Not applicable.	-	-



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barriers that:					
i. prevent the implementation of this type of proposed CMD project activity?	VVM	115	Not applicable.	-	-
ii. do not prevent the implementation of at least one of the alternatives?	VVM	115	Not applicable.	-	-
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}	VVM	116	Not applicable.	-	-
d. Were the barriers determined as real by:	VVM	117	Not applicable.	-	-
i. assessing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PoA-DD/CPA-DD exist?	VVM	117	Not applicable.	-	-
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	117	Not applicable.	-	-
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as	VVM	117	Not applicable.	-	-



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adequately substantiated)					
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of <i>at least one of</i> the possible alternatives, in particular the identified baseline scenario?	VVM	117	Not applicable.	-	-
<b>j. Common practice analysis</b>			<b>GRT Energy Small Scale Solar PV (PoA)</b>		
a. Is this a proposed large-scale, or first-of-its kind small-scale project activity?	VVM	119	No, this PoA is not covering the large scale project activity	OK.	OK.
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	119	Not applicable.	-	-
c. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologies the relevant region for assessment will be local and for others it may be transnational/global.	VVM	120	Not applicable.	-	-
d. Was a region other than the entire host country chosen?	VVM	120	Not applicable.	-	-
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	120	Not applicable.	-	-
f. Using official sources and local and industry	VVM	120	Not applicable.	-	-



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expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, have been undertaken in the defined region?					
g. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	120	Not applicable.	-	-
h. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	Not applicable.	-	-
<b>7. Monitoring plan</b>			<b>GRT Energy Small Scale Solar PV (PoA)</b>		
a. Does the POA-DD/CPA-DD include a monitoring plan?	VVM	122	Yes, the monitoring plan was included in PoA-DD.	OK.	OK.
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	122	Yes.	OK.	OK.
c. Were the list of parameters required by the the selected methodology identified?	VVM	123	Yes, list of monitoring parameters required by AMS-I.D version 17 are identified.	OK.	OK.
d. Does the monitoring plan contains all necessary parameters?	VVM	123	Yes, the monitoring plan contains these two parameters; - $EG_{BL,y}$ - $EG_{PJ, facility,y}$ These two parameters is necessary for this PoA.	OK.	OK.
e. Are the parameters clearly described?	VVM	123	Upon closure of CL10, description of $EG_{BL,y}$ and $EG_{PJ, facility,y}$ in section D.7.1 of the PoA-DD version 01 (Ref /1A/) dated 30/04/2012 are clearly described.	CL10	OK.





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f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	123	Refer to CL10 above  Upon closure of CL10, means of monitoring for EG <sub>BL,y</sub> and EG <sub>PJ,facility,y</sub> are in line with “ <i>General guidance to SSC CDM methodologies</i> ”	CL10	OK.
g. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	123	As per interview session with project participants during onsite visit (23-24 March 2012), the monitoring plan are discussed with these following people; <ul style="list-style-type: none"> <li>- Kanadej Thamanoonragsa (GRT)</li> <li>- Hari Kartik Arun (Biosphere)</li> <li>- Piroon Shinawatra (GRT)</li> <li>- Angus Mcewin (GRT)</li> </ul> With reference to response provided by project participant from interview session, combined with clear description of monitoring plan indicated in PoA-DD, it's confirmed that monitoring plan is feasible within project design.	OK.	OK.
h. Does the monitoring plan provide details regarding calibration of monitoring equipments/ instruments or does it include zero check as a substitute for calibration? (zero <b>check can not be considered as a substitute for calibration</b> )	EB 24	37	Yes, as per description provided in section D.7.1 of PoA-DD version 01 (Ref /1A/) dated on 30/04/2012, it's clear that meters will be calibrated at appropriate intervals according to the PEA standards (i.e., national standards). Measurement results shall be cross checked with records for sold/purchase electricity.	OK.	OK.
i. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	123	-	-	-



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i. data management procedures?	VVM	123	Yes. It's provided. The meters will be calibrated at appropriate intervals according to the PEA standards (i.e., national standards). Measurement results shall be cross checked with records for sold/purchase electricity	OK.	OK.
ii. quality assurance procedures?	VVM	123	Yes. It's provided. The meters will be calibrated at appropriate intervals according to the PEA standards (i.e., national standards). Measurement results shall be cross checked with records for sold/purchase electricity.	OK.	OK.
iii. quality control procedures?	VVM	123	Yes. It's provided. The meters will be calibrated at appropriate intervals according to the PEA standards (i.e., national standards). Measurement results shall be cross checked with records for sold/purchase electricity.	OK.	OK.
<b>8. Sustainable development</b>					
<i>GRT Energy Small Scale Solar PV (PoA)</i>					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	125	No.	OK.	OK.
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	126	Refer to CAR01.1 above  Upon closure of CAR01.1 above, LoA from Thailand DNA stated that this PoA will assist Thailand in achieving sustainable development.	CAR01	OK.
<b>9. Local stakeholder consultation</b>					
<i>GRT Energy Small Scale Solar PV (PoA)</i>					
a. Were local stakeholders (public, including individuals, groups or communities affected, or likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the	VVM	128	Not applicable. Local stakeholder comment is invited at CPA level.	OK.	OK.



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PPs to comment on the proposed CDM project activity prior to the publication of the POA-DD/CPA-DD on the UNFCCC website?					
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	129	Not applicable. Local stakeholder comment is invited at CPA level.	OK.	OK
c. Is the summary of the comments received as provided in the POA-DD/CPA-DD complete?	VVM	129	Not applicable. Local stakeholder comment is invited at CPA level.	OK.	OK.
d. Have the project participants taken due account of any comments received and described this process in the POA-DD/CPA-DD?	VVM	129	Not applicable. Local stakeholder comment is invited at CPA level.	OK.	OK.
<b>10. Environmental impacts</b>			<b>GRT Energy Small Scale Solar PV (PoA)</b>		
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	131	Not applicable, analysis of environmental impact subjected to be done at CPA level.	OK.	OK.
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	132	Not applicable, analysis of environmental impact subjected to be done at CPA level.	OK.	OK.
c. Does the host Party require an environmental impact assessment?	VVM	132	Refer to CAR03 above  Upon closure of CAR03, it's noted that Solar PV project doesn't required by law to conduct EIA	CAR03	OK.
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	Not applicable, analysis of environmental impact subjected to be done at CPA level.	OK.	OK.

**Table 2: Validation activities (delete this table if the project activity is not a programme of activities)**

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Con cl
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## VALIDATION REPORT

1. <i>Project design of programme of activities</i> (delete this table if the project activity is not a programme of activities)			GRT Energy Small Scale Solar PV (PoA)		
a. Are the operational and management arrangements which have been established by the coordinating / managing suitable for the PoA being validated?	VVM	165	<p>The GRT office visit has been conducted on 24/03/2012 with participation of these following persons;</p> <ul style="list-style-type: none"> <li>- Piroon Shinwatra : GRT CEO</li> <li>- Kanadej Thamanoonragsa : Associate</li> <li>- Hari Kartik Arun : Analyst</li> <li>- Angus McEwin : CDM Director</li> </ul> <p>Topics of interview covering operation and management arrangement of GRT as CME for this PoA project as well as validation of document "GRT Energy Small-Scale Solar PV (PoA) : Programme of Activities (PoA) Management System" for these following issues;</p> <ul style="list-style-type: none"> <li>- Clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies;</li> <li>- Records of arrangements for training and capacity development for personnel;</li> <li>- Procedures for technical review of inclusion of CPAs;</li> <li>- 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);</li> <li>- Records and documentation control process for each CPA under the PoA;</li> <li>- Measures for continual improvements of the</li> </ul>	CAR10	OK.



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			<p>PoA management system; - Any other relevant elements.</p> <p>Please refer to CAR10 in PoA validation protocol</p> <p>Upon closure of CAR10 in PoA validation report, it's confirmed that operational and management arrangements which have been established by the coordinating / managing suitable for the CPA-001 being validated?</p>		
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b. Are these arrangements sufficient to ensure that the coordinating / managing entity will have control of all records and information related to the implementation of individual CPAs and will be in the position to ensure each CPA is being operated in accordance with the specific requirements of the programs?	VVM	165	<p>Please refer to CL15 and CL16 in PoA validation protocol.</p> <p>Upon closure of CL15 and CL16 in PoA validation report, it's confirmed that C/ME arrangement is suffice.</p>	CL15 & CL16	OK.
c. Are the specified eligibility criteria in the CPA-DD sufficient to ensure that all CPAs would comply with the CDM requirements applicable to the PoA, including inter alia the means of demonstrating the additonality of the CPA and the applicability of the applied methodology?	VVM	166	<p>Refer to CL03 in PoA validation protocol.</p> <p>Upon closure of CL03 in PoA validation report, it's confirmed that eligibility criteria in PoA-DD suffice ensuring the all CPAs complies with CDM requirement.</p>	CL03 (CPA validation report)	OK.
d. Does any proposed CPA, which a coordinating / managing entity wishes to include in the PoA, complies with the eligibility criteria specified in the CPA-DD?	VVM	167	<p>Yes, CPA-001 is comply with eligibility criteria.</p>	CL06 (CPA validation report)	OK.
e. Does the proposed small-scale project activity meet the requirements of the simplified modalities and procedures for small-scale CDM project activities?	VVM	135	<p>Refer to CL06 above</p> <p>Upon closure of CL06 above, it's confirmed that CPA-001 meets the requirement of AMS-I.D version 17</p>	CL06 (CPA validation report)	OK.
f. Does the proeject activity qualify within the thresholds of the three possible types of small scales project activities? (Type i: project activities-renewable energy project activities with a maximum output capacity equivalent to up to 15 megawatts, Type ii: project activities-energy efficiency improvement project activities which reduce energy consumption, on the supply and / or demand side, by up to the equivalent of 15	VVM	136	<p>Refer to CL03 in PoA validation protocol.</p> <p>Upon closure of CL03 in PoA validation report, it's confirmed that CPA-001 is qualified within the threshold of AMS-I.D version 17.</p>	CL03	OK.





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gigawatt hours per year, Type iii: project activities- other project activities that both reduce the anthropogenic emissions by sources and directly emit less than 60 kilotonnes of carbon dioxide equivalent annually.)					
g. Does the project activity conform to one of the approved small-scale categories	VVM	136	Yes, the CPA-001 is conform with small-scale category.	OK.	OK.
h. Does the project activity apply the relevant tool and methodology?	VVM	136	Yes It has followed the approved methodology AMS I.D version 17 and its relevant tools defined in the methodology.	OK	OK
i. Are the small-scale methodologies applied in conjunction with general guidelines to SSC CDM methodologies, which provides guidelines on equipment capacity, equipment performance / lifetime, baseline identification for type-II/III Greenfield project activities, sampling and other monitoring related issues?	VVM	136	Yes, CPA-001 is compliance with AMS-I.D version 17.	OK	OK
j. Is the project activity a debundle component of a large-scale project, ie. Is there a registered small-scale CDM project activity or an application to register another CDM project activity: (a) with the same project participants, (b) in the same project category and technology / measure, and (c) registered with the previous 2 years and (d) whose project boundary is within 1 km of the proposed boundary of the proposed small-scale activity at the closest points?	VVM	136	Validation team conducted onsite visit for first CPA ( i.e., GRT Energy Small Scale Solar PV (PoA) – CPA-001) on 23/03/2012 at Wangkhonkwang Sub-district, Khok Samrong District, Lopburi province. With evidence found onsite, there is no registered small-scale CDM project activity or an application to register another CDM project activity: (a) with the same project participant, (b) in the same project category and technology/measure, and (c) registered with the previous 2 years and (d) whose project boundary is within 1 km of the proposed boundary of the first CPA at the closet point	OK.	OK
k. Is an assessment of the environmental impacts of	VVM	136	Yes. It's depending on where the area of proposed	OK	OK



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the proposed CDM project activities required by the host Party.			project located, if project located in sensitive area (defined by cabinet), the environmental impact assessment is requested. However, at least IEE-SD required by Thai DNA for any cases.		
I. Is the project additional?	VVM	137	Yes, the CPA-001 is additional	OK.	OK.

TABLE 3: RESOLUTION OF CORRECTIVE ACTION AND CLARIFICATION REQUESTS

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
<u>CAR01</u>  <u>CAR01.1:</u> The LOA of Thailand is not provided.  <u>CAR01.2:</u> The LOA of Sweden is not provided.	1 (a)	<u>1<sup>st</sup> Response from PPs on 20/03/2012</u>  TBD  <u>2<sup>nd</sup> Response from PPs on 30/04/2012:</u>  TBD  <u>3<sup>rd</sup> Response from PPs on 06/06/2012:</u>  <u>Thai LOA:</u> Please refer to SD_44 and SD_45 for the English and Thai versions of Thailand LOA.  <u>Sweden LOA:</u> TBD  <u>4th Response from PPs on 06/07/2012</u>  The LOA of Sweden has now been provided - please refer to SD_48-GRT-	<u>1st Comment from Validation Team on 30/03/2012</u>  Pending.  <u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u>  Pending. <u>3<sup>rd</sup> Response from Validation Team on 28/06/2012</u> The letter of approval from Thailand Greenhouse Gas Management Organization (Thai DNA) has been submitted and accepted for validation.  However, CAR01.2 is still pending.  <u>5th Comment from Validation Team on 13/07/2012</u> In regard to CAR01.1, the DOE noticed there is no statement



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		<p>Energy-SW-LOA.</p> <p><u>5th Response from PPs on 18/07/2012:</u></p> <p>The title of the project activity approved by the Thai DNA clearly says "PoA", so the approval is granted to a PoA, not to a standalone CDM project activity. GRT Energy is the CME according to the PDD, and it is authorized by the DNA (although there is no statement on CME in the LoA). Hence, the LoA meets all the EB requirements, i.e. clearly stating that this is for a PoA and giving the authorization</p>	<p>regarding "Coordinating/ Managing Entity (C/ME)" in LoA from Thai DNA, project participant is requested to further clarify whether this LoA is received from Thai DNA as resulted from application of "CDM project activity" or application of "C/ME" towards this PoA. Please also provide the application form that has been submitted to Thai DNA for cross-checking purpose.</p> <p>Project participant is also requested to provide letter from Thai DNA regarding the name of the PoA in English version.</p> <p>For CAR01.2, the LoA is accepted for validation.</p> <p>This CAR01 is pending.</p> <p><u>5<sup>th</sup> Comment from Validation Team on 30/07/2012</u></p> <p>In regard to statement of "Coordinating/ Managing Entity (C/ME)" in LoA, DOE has made telephone interview with Ms Anna (officer in TGO) on 17/07/2012 and confirmed that PP (i.e., GRT Energy Co., Ltd.) has made application for CME for this PoA. This is in line with</p>
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		<p>to a company which is a CME.</p> <p>As requested, the cover letter for the LoA application has now been provided (SD_57). Please check directly with the DNA to confirm the LoA.</p> <p>The letter from the Thai DNA regarding the name spelling of the PoA can be translated. However, we feel this is not necessary and we request that the DOE refers to the English version of the LoA with the correct spelling of the project name as this is a valid and clear version of the LoA which alone should be sufficient for the request for registration.</p>	<p>cover letter applied for LoA submitted to DOE on the 5<sup>th</sup> response (Ref /01/). DOE has no further issue for application on this LoA.</p> <p>However, with reference to Ms Anna, it's fact that the LoA issued for "GRT Energy Co., Ltd." is not in line with previous practice of TGO when issuing LoA for PoA and CME. It's found that the statement of "C/ME" is missing, while the previous PoA project would have statement "C/ME" clearly addressed in the LoA. DOE found that this occurrence for the GRT case would cause the problem for GRT Energy Co., Ltd. as the C/ME for this PoA in the future.</p> <p>DOE would like to refer to paragraph 9 of EB55 Annex38 that not only the LoA must be issued for PoA but C/ME shall also obtain letters of authorization of its coordination of the PoA from each host Party.</p> <p>In the sense above, PP is requested to seek clarification from Thai DNA in regard to missing "C/ME" statement in LoA and how this existing LoA is in line with paragraph</p>
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		<p>9 of EB55 Annex38</p> <p>For the case of miss-spelling LoA in Thai version, DOE agreed that the LoA in English version has already obtained correct spelling of the PoA title. However, as earlier mentioned that this LoA in English version has no statement of "C/ME" and this issue for CAR01.1 is pending.</p> <p>This CAR01 is pending.</p> <p><u>6<sup>th</sup> Comment from Validation Team on 21/09/2012</u></p> <p>Validation team noted the justification from project participant, however, the validation team could not reach same agreement that this LoA fulfills requirement in paragraph 9 of EB55 Annex38 based on these following reasons;</p> <p>(a) The detail in this LoA (Ref /01/) didn't mention 'GRT Energy Co., Ltd.' as 'C/ME'. This LoA fail to highlight the <u>most serious fact</u> in PoA point-of-view that the company addressed in this LoA is 'C/ME'. Validation team could not accept this LoA as 'stand-alone' evidence unless there is additional letter from TGO to clarify the missing</p>
	<p><u>6th Response from PPs on 06/09/2012:</u></p> <p>The LoA meets all the EB requirements, i.e. clearly stating that this is for a PoA and giving the authorization to a company which is a CME, so we believe there will be no problems for GRT Energy Co., Ltd. as the CME for this PoA in the future</p>	



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		<p>statement.</p> <p>(b) The detail/format in this LoA is not consistency with other PoAs previously received from TGO. While the one registered PoA in Thailand clearly stated the statement 'C/ME' in LoA but this LoA not even mentioned this important detail. It's noted that the format of detail provided in the LoA is not different from LoA in typical CDM project.</p> <p>Unless there is clarification letter from TGO, validation team could not close this pending issue.</p> <p>With opinion above, this issue is pending.</p> <p><u>Additional comment from Email's response from project participant on 23/09/2012</u></p> <p>With reference to clarification letter from TGO (Ref /02/), validation team reviewed this letter and found TGO (Thai DNA) given further clarification that the name "GRT Solar Energy Co., Ltd." defined in LoA (Ref /01/) is authorized by Thai host country DNA as "Coordinating/Managing Entity (C/ME)" for this PoA.</p>
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			<p>Validation team considered this letter fulfill requirement in paragraph 9 of EB55 Annex38.</p> <p>Therefore, this CAR01 is closed.</p>
<p><b>CAR02</b></p> <p>The reference to figure 5 indicated in table 2 of section A.4.2. of the PoA-DD is not match with the context.</p>	3 (g) (i)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u></p> <p>Figure 5 has been changed to figure 2, which matches with the context</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u></p> <p>With reference to the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012, the the indication of figure 5 in section A.4.2 has been changed to figure 2. This is in line with the context.</p> <p>Therefore, CAR02 is closed.</p>
<p><b>CAR03</b></p> <p>1) The description in section C.3 regarding requirement for small-scale solar PV in conducting EIA study is <u>not</u> in line with Thai Environmental Law, while proposed location of CPAs particularly in <u>sensitive natural area</u>, is not taken into account.</p> <p>2) There is no statement regarding to the term "<b>transboundary impact</b>" in section C.3.</p>	3 (p)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u></p> <p>1) According to Section 46 and Section 51 of the Nationa Environment Quality Act (NEQA) in 2535, there are 34 types of projects which are required to perform an Environmental Impact Assessment (EIA) report for Office of Natural Resources and Environment's consideration. An approval from the office of natural resources and environment is required for the</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u></p> <p>1) With reference to web link (<a href="http://www.onep.go.th/eia/index.php">http://www.onep.go.th/eia/index.php</a>) provided by 1<sup>st</sup> response from PPs, DOE followed the link and found that 34 project types requiring EIA is in line with this provided web link</p>



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		<p>implementation of the 34 types of projects<sup>1</sup>.</p> <p>The sensitive areas which require an EIA in any case include:</p> <ol style="list-style-type: none"> <li>1. Historic sites</li> <li>2. Archeological resources like museum or historical monument under the Antiquities , Art National Museum</li> <li>3. World Heritage Site</li> <li>4. Wildlife conservation sites</li> <li>5. National parks</li> <li>6. Forest parks</li> <li>7. Botanical garden</li> <li>8. Arboretum</li> </ol> <p>Phetchaburi and Prachuap Khiri B.Mon are also declared as protected areas, which also would require an EIA.</p> <p>2) Statement regarding transboundary impacts has been added in section C.3 of the PoA-DD.</p>	<p>However, with reference to web link above, DOE not able to find the claims on 8 sensitive areas including Phetchaburi and Prachuap Khiri B.Mon that subjected to conduct EIA in any cases. More clear reference with specific web link is requested. The spelling check is also requested throughout the document.</p> <p>Apart from statement regarding EIA above, description in section C.1 and C.2 are not clear and not providing the room for the case where next CPA possibly located in sensitive area that required EIA study.</p> <p>2) DOE took note on statement in section C.3 of the PoA-DD version 1 dated on 20/03/2012, this statement has been validated against submitted IEE-SD report (Ref /21/) and found</p>
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<sup>1</sup> [http://translate.google.com.sg/translate?hl=en&sl=th&u=http://www.onep.go.th/eia/index.php%3Foption%3Dcom\\_content%26view%3Darticle%26id%3D67:2010-10-04-22-39-53%26catid%3D4:2010-09-16-04-32-17%26Itemid%3D10&ei=FV9hT7aIPi6yrAfO\\_5SXBg&sa=X&oi=translate&ct=result&resnum=1&ved=0CCQQ7gEwAA&prev=/search%3Fq%3Dhttp://www.onep.go.th/eia/index.php%253Foption%253Dcom\\_content%2526view%253Darticle%2526id%253D67:2010-10-04-22-39-53%2526catid%253D4:2010-09-16-04-32-17%2526Itemid%253D10%26hl%3Den%26client%3Dfirefox-a%26hs%3Dddh%26rls%3Dorg.mozilla:en-US:official%26prmd%3Dimvns](http://translate.google.com.sg/translate?hl=en&sl=th&u=http://www.onep.go.th/eia/index.php%3Foption%3Dcom_content%26view%3Darticle%26id%3D67:2010-10-04-22-39-53%26catid%3D4:2010-09-16-04-32-17%26Itemid%3D10&ei=FV9hT7aIPi6yrAfO_5SXBg&sa=X&oi=translate&ct=result&resnum=1&ved=0CCQQ7gEwAA&prev=/search%3Fq%3Dhttp://www.onep.go.th/eia/index.php%253Foption%253Dcom_content%2526view%253Darticle%2526id%253D67:2010-10-04-22-39-53%2526catid%253D4:2010-09-16-04-32-17%2526Itemid%253D10%26hl%3Den%26client%3Dfirefox-a%26hs%3Dddh%26rls%3Dorg.mozilla:en-US:official%26prmd%3Dimvns)



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		<p>that there is no transboundary impacts associated in typical CPAs under this PoA</p> <p>With information provided by PPs during onsite visit (23/03/2012), DOE noted that IEE-SD report which has been submitted to DOE is not the final version and now in process of reviewing by Thai DNA (Thailand Greenhouse Gas Organization – TGO). PPs is requested to submitted the latest version of this report if there is change in detail as result of question-and-answer from TGO reviewing process.</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u></p> <p>1) Refer to:  <a href="http://www.onep.go.th/eia/index.php?option=com_content&amp;view=article&amp;id=67:2010-10-04-22-39-53&amp;catid=4:2010-09-16-04-32-17&amp;Itemid=10">http://www.onep.go.th/eia/index.php?option=com_content&amp;view=article&amp;id=67:2010-10-04-22-39-53&amp;catid=4:2010-09-16-04-32-17&amp;Itemid=10</a> and  <a href="http://www.onep.go.th/eia/index.php?option=com_content&amp;view=category&amp;id=14&amp;Itemid=2">http://www.onep.go.th/eia/index.php?option=com_content&amp;view=category&amp;id=14&amp;Itemid=2</a></p>	<p>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</p> <p>1) With reference to the link (<a href="http://www.onep.go.th/eia/index.php?option=com_content&amp;view=article&amp;id=67:2010-10-04-22-39-53&amp;catid=4:2010-09-16-04-32-17&amp;Itemid=10">http://www.onep.go.th/eia/index.php?option=com_content&amp;view=article&amp;id=67:2010-10-04-22-39-53&amp;catid=4:2010-09-16-04-32-17&amp;Itemid=10</a> and <a href="http://www.onep.go.th/eia/index.php?option=com_content&amp;view=category&amp;id=14&amp;Itemid=2">http://www.onep.go.th/eia/index.php?option=com_content&amp;view=category&amp;id=14&amp;Itemid=2</a>) provided by PPs on 2<sup>nd</sup> response</p>
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from PPs on 30/04/2012, DOE found the statements in item 34 indicated in provided link that all proposed projects (any project types and project size) which locate in “**watershed area class 1**” (in Thai : พื้นที่ลุ่มน้ำคุณภาพชั้น 1) is requested to conduct EIA study in all cases.

There is no any detail in provided links related to “the category of sensitive areas which require an EIA in any case” as indicated in the PoA-DD and DOE also found that “category of sensitive areas which require an EIA in any case” is not in line with the section 46 and 51 of the National Environmental Quality Act (NEQA) earlier mentioned in the PoA-DD.

In addition to the above, the term “Phetchaburi” and “Prachuap Khiri B.Mon” which are declared as protected areas is not fully agree with the section 46 and 51 mentioned earlier mentioned in the PoA-DD and the word



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			<p>“Prachuap Khiri B.Mon” is misspelling and not in line with actual common name for this province in Thailand.</p> <p>Given the description of section C (Environmental Analysis) in the PoA-DD is strongly related to the section C in both generic CPA-DD and specific CPA-DD (CPA-001), PPs is also request to incorporate the changes in this PoA-DD into these two CPA-DD documents as necessary. And the PPs is requested for further clarify on why description of “Air quality”, “Effluent quality”, and “Noise” in section C.2 of <u>generic</u> CPA-DD are fixed and not provide the room for any future modification, given the fact that the analysis of environmental impact would be conduct in each CPA at CPA level, and PPs made clear in section C.1 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012 that “<i>potential of environmental impact of each CPA could differ in relation to the location and setting of each site</i>”</p>
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		<p><u>3<sup>rd</sup> Response from PPs on 06/06/2012</u></p> <p>With reference to the link (<a href="http://www.onep.go.th/eia/index.php?option=com_content&amp;view=article&amp;id=67:2010-10-04-22-39-53&amp;catid=4:2010-09-16-04-32-17&amp;Itemid=10">http://www.onep.go.th/eia/index.php?option=com_content&amp;view=article&amp;id=67:2010-10-04-22-39-53&amp;catid=4:2010-09-16-04-32-17&amp;Itemid=10</a>) there are 34 types of projects that require an Environmental Impact Assessment. The potential CPAs under the current PoA would not fall under any of the mentioned categories except for possibly item 34. For item 34, the following link gives a list of watershed areas in Thailand, where an EIA would be required, <a href="http://water.rid.go.th/hyd/basin/25basin.htm">http://water.rid.go.th/hyd/basin/25basin.htm</a>, or Refer to SD_38-watershed-list and SD_42-watershed-area-map</p> <p>If any of the potential CPAs are planned to be located in the areas listed in SD_38-watershed-list, then an EIA would be required and would be undertaken. Reference to the list of watershed areas where an EIA would be required is provided in the PoA-DD.</p> <p>The Phetchaburi and Prachuap Khiri</p>	<p>The CAR03 is pending.</p> <p><u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u></p> <p>DOE took note on new revision regarding the needs for Environmental Impact Assessment in section C.1 and C.3 in the PoA-DD version 3.0 (Ref /4A/) dated on 06/06/2012, the new revision clearly stated that “...<i>solar power plant projects do not need to undertake an EIA unless they are located in a designated watershed area (type 34)... If any part of a CPA is included in one of these areas, an EIA is required.</i>”. This statement has been validated against Section 46 and Section 51 of the National Environment Quality Act (NEQA) in B.E. 2535 and found this is agreed well to this law. The link indicating watershed list and watershed area map (i.e., <a href="http://water.rid.go.th/hyd/basin/25basin.htm">http://water.rid.go.th/hyd/basin/25basin.htm</a>, SD_38-watershed-list and SD_42-watershed-area-map) have been validated by DOE and found this is in line with the NEQA.</p>
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		<p>B.Mon areas have been deleted from the PoA-DD as they do not come under the list of 34 project activities that require EIA.</p> <p>The description of “<i>Air quality</i>”, “<i>Effluent quality</i>”, “<i>Noise</i>” and other environmental factors has been deleted from the CPA-DD generic as the Environmental Impacts will be analysed at the CPA specific level, if required.</p> <p><u>4th response from PPs on 06/07/2012</u></p> <p>The spelling of the text in S.No has been corrected.</p>	<p>Therefore, this revision is satisfied and accepted.</p> <p>DOE took note on the revision in section C.2 of generic CPA-DD version 3.0 but spelling-check for the text in S.No 2 is requested.</p> <p>The CAR03 would be closed based upon this correction.</p> <p><u>4<sup>th</sup> Comment from PPs on 30/07/2012</u></p> <p>DOE reviewed the new revision in section C.2 of the PoA-DD version 4.0 dated on 06/07/2012 and satisfied.</p> <p>The spelling in section C.2 of generic CPA-DD version 4.0 received on 06/07/2012 is no longer appeared.</p> <p>Therefore, this CAR03 is closed.</p>
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## VALIDATION REPORT

<p><b>CAR04</b> As indicated in section E.1 of the PoA-DD, the meeting number with reference to methodology AMS-I.D is incorrect.</p>	3 (u)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> This has been corrected to EB 61 in the revised PoA-DD</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u> The revised version number is now updated in the PoA-DD.</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> With reference to version 1.0 dated on 21/03/2012 of the PoA-DD, the corrected to EB61 is not found, as appeared in this version of PoA-DD, the meeting number remains the same EB51.</p> <p>Therefore, CAR04 is pending.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u> With reference to section E.1 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012, the meeting number of AMS-I.D is correct (i.e., EB61).</p> <p>Therefore, CAR04 is closed.</p>
<p><b>CAR05</b> As description in section E.2 of the PoA-DD, the justification on its applicability according to para 2 and 4 of methodology AMS-I.D version 17 are missing.</p>	3 (v)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> The PoA-DD has been revised to be clear on these issues: Para 2: The current PoA aims to promote project activities that supplies electricity to national/regional grid. Para 4: Only small scale grid connected solar PV projects are eligible, projects using hydropower technology is not eligible or applicable.</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> With reference to version 1.0 dated on 21/03/2012 of the PoA-DD, the revision in Section E.2 regarding justification on para 2 and 4 of AMS-I.D version 17 are found.</p> <p>The justification that “<i>the current PoA aims to promote project activities that supplies electricity to nation/regional grid</i>” is in line with</p>



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		<p>para 2 of the methodology.</p> <p>The justification that “<i>only small scale grid connected solar PV project are eligible, project using hydro power technology is not eligible or applicable</i>” is in line with description of technology to be employed in section A.4.2.1 of the PoA-DD and also in line with para 4 of the methodology. DOE satisfied in this justification.</p> <p>However, PPs is requested to check proper sequence in numbering of each topic in table 4 as indicated in section E.2 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012.</p> <p>Based on finding above, CAR05 is pending.</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u> Numbering and sequence order now updated in the PoA-DD.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u> With reference to section E.2 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012, the numbering and sequence order are found appropriate.</p> <p>The underlying text of S.No 4 is miss-match with the surrounding</p>
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		<u>3<sup>rd</sup> Response from PPs on 06/06/2012</u> Formatting has been corrected.	format.  This issue is pending.  <u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u> With reference to section E.2 in PoA-DD version 3.0 (Ref /4A/) dated on 06/06/2012, the format of the text in S.No 4 has been corrected and CAR05 is closed.
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## VALIDATION REPORT

<p><b>CAR06</b> As indicated in section E.5 of the PoA-DD, the title of document with reference to EB 63 annex 24 is incorrect.</p>	3 (y)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> The PoA-DD has been revised accordingly (EB63, Annex 24: Attachment A of appendix B of the “Simplified modalities and procedures for small-scale CDM project activities”)</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u> Now updated in the PoA-DD to: EB63, Annex 24, Attachment A of Appendix B of the “Simplified modalities and procedures for small-scale CDM project activities”.</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> With reference to PoA-DD version 01 (Ref /3A/) dated on 21/03/2012, the title of document to EB63 annex24 is incorrect.</p> <p>This is caused CAR06 pending.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u> With reference to the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012, the revised title of EB63 Annex 24 is correct. Therefore, CAR06 is closed.</p>
<p><b>CAR07</b> As indicated in section E.6.2 of the PoA-DD, the data used in calculation of the operating margin (OM) is <u>not</u> the most recent available data at the time of submission of PoA-DD/CPA-DD document to DOE for validation and the publication with reference to TGO is <u>not</u> the most updated.</p>	3 (z) (ii)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> Section E.6.2 of the PoA-DD has been updated with the most recent available data from the TGO (refer to SD_6) <a href="http://www.tgo.or.th/download/publication/GEFReport_EN.pdf">http://www.tgo.or.th/download/publication/GEFReport_EN.pdf</a></p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u> The Tables are now provided in the CPA-DD and not the POA-DD (as they will change over time). The Tables are correctly formatted.</p> <p>The version number of the Tool is also updated in the revised PoA-DD.</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> With respect to “CO2 Emission Factor” provided in section E.6.2 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012, DOE found that data presented in table 6, 7 and 8 are not completed.</p> <p>DOE also found that description and version number of the “Tool to calculate the emission factor for an electricity system” provided in step 5 is not in line with the latest version.</p> <p>Therefore, CAR07 is pending.</p>



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2<sup>nd</sup> Comment from Validation Team on 17/05/2012

The DOE took note in the latest revision of “CO2 Emission Factor” in section E.6.2 of the PoA-DD version 1 dated on 30/04/2012, however, based on 2<sup>nd</sup> response from PPs, DOE could not found the claimed tables in CPA-DD but these tables still be found in the PoA-DD. From the statement in 2<sup>nd</sup> response, DOE implied the first sentence that “the CO2 emission factor” will change over time, thus, PPs is requested for further clarification on this issue (see below comments).

Given the instruction in page 21 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012 that “*to find the grid emission factor ( $EF_{grid,CM,y}$ ), Project participants shall apply the following six steps”*, therefore, PPs is requested to clarify on what is purpose behind this instruction whether there is a need for project participant to re-calculate “Thai Grid Emission Factor” every time of each CPA inclusion or make reference to publication of Thai DNA (Thailand Greenhouse Gas Management



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Organization) at time of CPA inclusion or anything else. There is no clear instruction for project participant in the next inclusion of the CPA whether to fix this value or re-calculate or make reference to external publication or something else in this section. This comments is related to parameter " $EF_{CO2,grid,y}$ " in section E.6.3 of this current version of the PoA-DD that this parameter is to be reported and specified in CPA-DD. Again, PPs is requested to clarify on this parameter whether this would be fix or re-calculate by project participant every time of CPA inclusion or refer to Thai DNA publication or something else.

In addition, the description of " $EF_{CO2,grid,y}$ " in section E.6.3 of this current PoA-DD is not in line with the methodology, PPs is requested to correct this description in both generic CPA-DD and specific CPA-DD (CPA-001).

In DOE point of view, the description for this parameter is not clear and specific directions from CME is requested with taking account of



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		<p>guidance on how is operating margin (OM) determined, as stated in “<i>Tool to calculate the emission factor for an electricity system version 02.2.1</i>”.</p> <p>The table 6, 7 and 8 are not completed.</p> <p>Footnote referring to “SD_6” in section E.6.1 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012 is not ease the understanding of general reader who may not familiar with this abbreviation. This comment should be taken into account for referring to “SD_24” that have been referred several places throughout the PoA-DD document.</p> <p>Given the reference to “version 2.2.1” under step 5 in page 24 of this current version of the PoA-DD, the description regarding the term “set of five power plants” and “set of power capacity additions to the electricity system that comprise 20%” are not in line with the latest version of the tool.</p> <p>Checking of font size, alignment and irrelevant text is requested for this</p>
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		<p><u>3<sup>rd</sup> Response from PPs on 06/06/2012</u>  The latest grid emission factor (GEF) data has been provided in Table 7, 8 and 9 of the PoA-DD. The GEF data is in line with SD_6: <i>GEF Report_EN</i>. The GEF is fixed at the PoA level and all the CPAs that are to be included will refer to the GEF specified in the PoA-DD. GEF will not be calculated separately at each of the CPA inclusions.  The instruction – “<i>Project participants shall apply the following six steps</i>” is used to calculate the combined margin grid emission factor of Thailand, which is in line with the latest version of “<i>Tool to calculate the emission factor for an electricity system</i>”, which is also used by the Thai DNA (TGO) to calculate the current GEF of Thailand. Please refer to SD_6: <i>GEF Report_EN</i>. The GEF will not be recalculated every time a CPA is included. All CPAs would use the GEF determined in the PoA-DD.  Section E.6.3 has been edited and the value of <math>EF_{CO_2,grid,y}</math> has been specified. Tables 6, 7 and 8 are complete.  The combined margin grid emission factor parameter is <math>EF_{CO_2,grid,y}</math> as per the</p>	<p>area, including but not limit to, page 21 and page 24 for this current version of the PoA-DD.</p> <p><u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u>  As per new revision in section E.6.2 of the PoA-DD version 3.0 (Ref /4A/) dated on 06/06/2012, and found table 7, 8 and 9 have been revised to be in line with publication of Thailand Greenhouse Gas Management Organization (TGO) which is acting as Thai DNA for CDM project.</p> <p>The statement that “...<i>the grid emission factor will be calculated at the PoA level, and all the CPAs would use the emission factor specified in the PoA level</i>” is in line with “<i>The Study of Emission Factor for Electricity Generation of Thailand</i>” published by Thai DNA (Ref /1A/) that the build margin emission factor is calculated “<i>ex ante</i>” with the most recent information available at the time of CDM-PDD submission to the DOE for validation.</p> <p>DOE noticed that the appearance of</p>
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		<p>Meth, or <math>EF_{grid,CM,y}</math> as per the Tool. For the Thailand grid, this has been calculated using the latest version of the <i>“Tool to calculate the emission factor for an electricity system”</i>. The OM is calculated using Simple OM method as specified in the latest version of the Tool, using the data of the past three years, i.e. 2008, 2009 and 2010. Please refer to SD_6, page-2, for a detailed explanation of the calculation of OM.</p> <p>The supporting documents SD_6 and SD_24 are named as SD_6-GEFREPORT_EN and SD_24-INTERCONNECTIONCODE_PEA_EN[1] respectively.</p> <p>The “set of five power plants” and “set of power capacity additions to the electricity system that comprise 20%” section in the current PoA-DD have been modified to be in line with the version 2.2.1 of the <i>“Tool to calculate the emission factor for an electricity system.”</i></p> <p><u>4<sup>th</sup> response from PPs on 06/07/2012</u> The word “MHZ” has been replaced by “MWh” under section E.6.2 of the PoA-DD.</p>	<p>table 7, 8, 9 and 10 are now completed.</p> <p>DOE took note for revision on these following;</p> <ul style="list-style-type: none"> <li>- Changing of “AMS.1.D” to “AMS I.D”</li> <li>- Short description of “SD_6” is now provided.</li> <li>- New revision in “set of five power plants” and “set of power capacity additions to the electricity system that comprise 20%”</li> </ul> <p>These revisions are correct and accepted.</p> <p>However, DOE could not accept the term “MHZ” as indicated in page 21 for parameter <math>EG_{BL,y}</math> and <math>EF_{CO2,grid,y}</math> under section E.6.2 of the PoA-DD version 3.0 (Ref /4A/) dated on 06/06/2012 and proper correction is requested</p> <p>Based on finding above, CAR07 is pending.</p> <p><u>4<sup>th</sup> Comment from Validation Team on 13/07/2012</u> The revision in the word “MHZ” in section E.6.2 of the PoA-DD version 4.0 dated on 06/07/2012 is satisfied</p>
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<p><b>CAR08</b></p> <p>The expression of baseline emission (<math>BE_y = EG_{facility,y} \times EF_{grid,CM,y}</math>) in section E.6.2 and expression of "<math>EG_{facility,y}</math>" in section D.7.1 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012 are not in line with AMS-I.D version 17 para 11</p>		<p><u>2<sup>nd</sup> response from PPs on 30/04/2012</u></p> <p><math>EG_{facility}</math> has been replaced with <math>EG_{BL}</math> and <math>EG_{GRID,CM}</math> has been replaced with <math>EF_{CO2,GRID}</math>, in accordance with the Methodology in all design documents.</p>	<p>and CAR07 is closed.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u></p> <p>As per latest revision in section E.6.2 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012, DOE took note on the revision on "Baseline emission" which expressed as below;</p> $BE_y = EG_{BL,y} * EF_{CO,grid,y}$ <p>This revision is in line with the AMS-ID version 17 para 11.</p> <p>For revision in section D.7.1, DOE noticed the changing at the head of this section from "D.7.1" to "E.7.1" which is understandable, but this is not in line with form CDM-SSC-PoA-DD version 01 (Ref /3A/).</p> <p>In addition to the above, the expression of "<math>EG_{BL,y}</math>," in this section is not agreed with AMS-I.D version 17 para 11 and the data unit for "<math>EG_{PJ,facility,y}</math>" is not in line with the methodology.</p> <p>In light of the finding above, the CAR08 is pending.</p>
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		<p><u>3<sup>rd</sup> response from PPs 14/05/2012</u> The parameter “EG<sub>BL,y</sub>” has been changed to “EG<sub>BL,y</sub>” which is in line with AMS-I.D, version 17 para 11.</p> <p>The data unit of EG<sub>BL,y</sub> is changed to MWh from MWh/year, (the data unit for EG<sub>PJ,facility,y</sub> is also MWh, in line with the methodology).</p> <p><u>4<sup>th</sup> response from PPs 06/07/2012</u> In section E.6.2, the parameter “EG<sub>BL,y</sub>”</p>	<p><u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u> Combined with new revision in section D.7.1 of the PoA-DD version 3.0 (Ref /4A/) dated on 06/06/2012, it's found that parameter “EG<sub>BL,y</sub>” has been deleted out and left only parameter EG<sub>facility,y</sub> to be monitored.</p> <p>This is also not in line with the 3<sup>rd</sup> response from PPs on 14/05/2012 that PPs seems to accept the idea to revise appearance of the term “EG<sub>BL,y</sub>” but not deleted out.</p> <p>More clarification and reasons behind this revision is requested and how parameter “EG<sub>facility,y</sub>” in this section is related to parameter “EG<sub>BL,y</sub>” and “EG<sub>PJ,facility,y</sub>” set out as parameters to be used for calculation of emission reduction in section E.6.2 of this current version of the PoA-DD.</p> <p>With finding above, CAR08 is pending.</p> <p><u>4<sup>th</sup> Comment from Validation Team on 13/07/2012</u></p>
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		<p>has been derived from equation (1), page 3/16 of the AMS.I.D, version 17. The parameter “EG<sub>PJ,facility,y</sub>” is derived from equation (3), page 4/16 of the AMS.I.D, version 17.</p> <p>“EG<sub>facility,y</sub>” is the monitoring parameter used to monitor quantity of net electricity supplied to the grid in the year y. It is derived from <i>Table 1: Parameters for monitoring during the crediting period</i>, S.No 5, page 11/16 of the AMS.I.D, version 17. Thus, in line with AMS.I.D, for monitoring the quantity of net electricity supplied to the grid in year y, the parameter “EG<sub>facility,y</sub>” will be used, while for calculations of carbon credits, the parameter “EG<sub>BL,y</sub>” and parameter “EG<sub>PJ,facility,y</sub>” (in case of capacity additions) will be used. EG<sub>facility,y</sub> is equivalent to EG<sub>BL,y</sub> from AMS I.D Equation (1) and is also equivalent to EG<sub>PJ,facility,y</sub> in the case of capacity additions, as per Equation (3).</p>	<p>DOE noticed the elaborative description regarding parameter “EG<sub>facility,y</sub>” as indicated in section D.7.1 of the PoA-DD version 4.0 dated on 06/07/2012, it's found that more clearer explanation for the application of parameter “EG<sub>facility,y</sub>” has been appropriately point out to parameter “EG<sub>BL,y</sub>” and “EG<sub>PJ,facility,y</sub>” which is in accordance with equation (1), (3) and table 1 of AMS-I.D version 17. This is satisfied and accepted.</p> <p>Therefore, CAR08 is closed.</p>
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## VALIDATION REPORT

<p><u>CAR09</u> The calculation of baseline emission in case of “<i>capacity addition</i>” in section E.6.2 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012 is not in line with AMS-I.D version 17 para 15</p>		<p><u>2<sup>nd</sup> response from PPs on 30/04/2012</u> The calculation of baseline emissions in the case of capacity addition has been revised in the PoA-DD to include the missing equation.</p> <p><u>3<sup>rd</sup> response from PPs on 06/06/2012</u> AMS 1.D has been replaced by AMS I.D for consistency.</p> <p><u>4<sup>th</sup> response from PPs on 06/07/2012</u> The word “AMS.1.D” has been replaced by “AMS.I.D” in page 21.</p>	<p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u> DOE took note in this revision at section E.6.2 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012 and found that this revision is in line with the tool.</p> <p>However, the expression of “AMS 1.D” indicated several times in this section are not in accordance with the tool.</p> <p>This CAR09 is pending.</p> <p><u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u> The appearance of “AMS 1.D” can be found in page 21. This is not consistency with “AMS I.D” found in other pages.</p> <p>The CAR09 is pending.</p> <p><u>4<sup>th</sup> Comment from Validation Team on 13/07/2012</u> DOE noticed the revision in page 21 and accepted.</p> <p>This CAR09 is closed.</p>
<p><u>CAR10</u></p>		<p><u>2<sup>nd</sup> response from PPs on 30/04/2012</u></p>	<p><u>2<sup>nd</sup> Comment from Validation Team</u></p>



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<p>With reference to PP's responses during CME office visit on 24/03/2012, the "<i>CPA Eligibility Assessment report</i>" is not available for DOE validation. This is not in line with document "<i>Programme of Activities (PoA) Management system</i>" set out by CME and not in line with EB63 annex 3 para 9 (c).</p>		<p>The CPA Eligibility Assessment Report for the first CPA is now provided (SD_33). This is basically the CPA eligibility checklist as presented in the CPA-DD.</p>	<p>on <u>11/05/2012</u> The format of "CPA Eligibility Assessment Report (SD_33) version 01" (Ref /05/) is not completed.</p> <p>As indicated in S.No (b) of this document mentioned above, DOE could not find reference (SD_11) referring to "Feasibility Report" in Dropbox web database (as of 10/05/2012).</p> <p>As indicated in S.No (f) of the document above, the statement regarding "(b) Environmental impact assessment" is not in line with latest revision of the eligibility criteria in section A.4.2.2. of the PoA-DD version 01 (Ref /3A/) dated 30/04/2012.</p> <p>As indicated in S.No (i) of the document above, the reference "SD_16 : Land title deed" legally owned by Ms Naline Thaweessin (Acme Energy Development Co., Ltd.) is not in line with the fact that CPA No. 1 owner/implementer has to rent this land for construction and operation of Solar PV power plant. This is not in line with eligibility</p>
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		<p>criteria that if SSC-CPA owner rent the land from owner, the land lease agreement shall be provided as evidence to support this criterion.</p> <p>As indicated in S.No (j) of the document above, the “certification registration of GRT” is indicated as evidence to support that SSC-CPA owner shall own a business license as specified in eligibility criteria (j). However, this is not in line with the latest revision in section A.3 of the real case CPA-DD (GRT Energy Small Scale Solar PV (PoA) – CPA-001) version 01 dated on 25/04/2012 that “<b>Lopburi Solar Co., Ltd.</b>” is entity responsible for the CPA No.1 not “<b>GRT Energy Co., Ltd.</b>” anymore.</p> <p><u>3<sup>rd</sup> response from PPs on 06/06/2012</u> The “CPA Eligibility Assessment Report (SD_33)” has been completed now.</p> <p>The reference number for the Feasibility Report has been changed from SD_11 to SD_4.</p> <p>The eligibility criteria (f) in SD_33 has been changed to be in line with the PoA-DD.</p>	<p><u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u> Validation team took note on revision in CPA Eligibility Assessment Report version 02 (Ref /06/), please refer to CAR05 in CPA validation protocol</p>
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		<p>New supporting documentation is now provided - please refer to SD_39-Long term lease agreement-Acme(2) for the signed rental contract.</p> <p>New supporting documentation is now provided - please refer to SD_40-Affidavit-Lopburi Solar for the certificate of registration for Lopburi Solar Company.</p> <p><u>4<sup>th</sup> response from PPs on 06/07/2012</u></p> <p>The PoA-DD is made consistent with the CAR05 of the CPA protocol.</p> <p><u>5<sup>th</sup> response from PPs on 18/07/2012:</u></p> <p>These documents are now revised to be</p>	<p><u>4<sup>th</sup> comment from Validation Team on 13/07/2012</u></p> <p>The latest version of CPA Eligibility Assessment Report version 02 (Ref /06/) cannot represent the latest revision set out in section A.4.2.2. of the PoA-DD version 4.0 dated on 06/07/2012 and not in line with the latest change of section B.2 of the CPA-DD version 4.0 dated on 06/07/2012.</p> <p>This is not accepted and not in line with provision defined in document "<i>Programme of Activities (PoA) Management system</i>" set out by CME</p> <p><u>5<sup>th</sup> comment from Validation Team on 30/07/2012</u></p> <p>DOE noted the new revision in CPA</p>
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## VALIDATION REPORT

		consistent.	<p>Eligibility Assessment Report version 03 (Ref /07/) and found that this revision is in line with description in section B.2 of the specific CPA-DD (CPA-001) version 04 received on 18/07/2012.</p> <p>However, this issue is strongly related to pending CL03 and CL17 in PoA level. Up to present day, there is no final agreement between DOE and project participant in regard to evidence/supporting document that will be used to support each eligibility criterion. This issue would be closed based upon final closure of CL03 and CL17 issued below.</p> <p>This CAR10 is pending.</p> <p><u>Validation team note on 05/11/2012</u> Upon closure of CL03 and CL17, validation team validated consistent of CPA Eligibility Assessment Report version 03 (Ref /07/) and found that description in ref /07/ is in line with latest version of PoA-DD and CPA-DD.</p> <p>This CAR10 is closed.</p>
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<p><b>CL01</b> As indicated in section A.2 of the PoA-DD, please provide the reference for statement that the Royal Thai Government supports the use of renewable energy in the country without legally binding.</p>	<p>3 (d) (iii)</p>	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> Now provided – please refer to SD_21</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u> The reference has now been provided in the PoA-DD as a footnote.</p> <p><u>3<sup>rd</sup> Response from PPs on 06/06/2012</u> Refer to SD_43-ThaiRenewableEnPolicies and link is as</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> DOE not able to find reference “SD_21” in PoA-DD version 01 (Ref /3A/) dated on 21/03/2012, the CL01 is pending.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u> With reference to footnote no.1 in page 2 of the PoA-DD version 01 (Ref /3A/) dated 30/04/2012, the provided link refer to “France Green Tech : Mexico 2012” as picture shown below;</p> <div data-bbox="1624 780 1982 1045" data-label="Image"> </div> <p>DOE considered this link is irrelevant to issue raised in CL01, therefore, CL01 is still pending.</p> <p><u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u> With reference to article “Thailand Renewable Energy Policies and</p>
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		<p>follows: <a href="http://www.dede.go.th/dede/images/stories/english/information/ThaiRenewableEnPolicies.pdf">http://www.dede.go.th/dede/images/stories/english/information/ThaiRenewableEnPolicies.pdf</a> The link has been updated in the PoA-DD.</p>	<p>Wind Development Potential” (Ref /04/) it's confirmed that development of Solar PV power plant is voluntary and there is no law enforcement in country to shift from fossil fuel to renewable energy sources.</p> <p>This is accepted and closed.</p>
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<p><u>CL02</u> Please clarify on how would microscale project activity possibly be involved in this PoA and how it related to description in any relevant sections of PoA-DD, including but not limit to section A.4.2.1, A.4.2.2 and E.5, with regard to the term “eligibility criteria”</p>	<p>3 (g) (iv)</p>	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> Small-scale projects include all projects up to and including 15MW installed capacity. In our understanding, the small-scale guidance and rules thus apply to all our CPAs which will all be less than or equal to 15MW. We understand that there are also additional rules and guidelines that apply to micro-scale projects but we understand that micro-scale projects are not precluded from the rules governing small-scale projects. As such, in accordance with EB63, Annex 24, Attachment A of Appendix B, version 08, of the Simplified Modalities and Procedures for Small-Scale Project Activities, all small-scale solar projects are automatically considered additional so long as they comply with the small-scale threshold of 15MW, including those that are less than 5MW.</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> With reference to 1<sup>st</sup> response from PPs, DOE took note that eligibility of Solar PV with installed capacity less than 5 MW (i.e. micro-scale project) under this PoA is completely covered by EB63 annex 24, attachment A of appendix B.</p> <p>DOE validated this justification against “positive list” in attach A of appendix B mentioned above and found that “Solar PV” up to 15 MW installed capacity is fall under positive list and considered as automatic additional without further document of barrier. This is in line with eligibility criteria (e) set out in section A.4.2.2. of the PoA-DD and this already included micro-scale Solar PV with installed capacity equal to or less than 5 MW in this criteria without causing any contradiction. The justification by PPs is reasonable.</p> <p>Therefore, CL02 is closed.</p>
<p><u>CL02.1</u> With reference to response provided by project</p>		<p><u>1<sup>st</sup> Response from PP on 07/09/2012:</u> All projects below 15MW are eligible for</p>	<p><u>1<sup>st</sup> Comment from Validation Team on 21/09/2012</u></p>

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participant in CL02 on 20/03/2012, project participant is requested to clarify whether the PoA would involve only small-scale Solar PV or micro-scale and small-scale Solar PV		the inclusion to the PoA.	Validation team had no further issue for this justification.  Then, CL02.1 is closed.
<b>CL03</b> As indicated in EB65 annex 3, the PPs is requested to clarify on these following issues; 1) With reference to para 14 (c) of EB65 annex 3 mentioned above, please further clarify on how is the “ <b>compliance with testing/certifications</b> ” taking into account of eligibility criteria point (c) of the PoA-DD. 2) As indicated in eligibility criteria point (e) in section A.4.2.2. of the PoA-DD, please clarify discrepancy of the term “ <b>Retrofit</b> ” which is described differently between section A.4.2.2 and E.2 (point 6) and please also clarify on how was the term “ <b>Replacement</b> ”, as indicated in para 3 of AMS-I.D version 17, taken into account of development of eligibility criteria in this PoA-DD. 3) Please clarify on how are para (k) of EB65 annex3 taken into account of development of eligibility in this PoA-DD. 4) With regard to eligibility criteria (f) defined in section A.4.2.2 of the PoA-DD, please clarify how it's related to the description in section C.1, C.2 and C.3 in case that “ <b>Environmental Impact Assessment (EIA)</b> ” is not required but “ <b>Initial</b>	3 (g) (ix)	<b>1<sup>st</sup> Response from PPs on 20/03/2012</b> 1) The eligibility criteria been revised to include in part c the requirement for the technology used to have one of the following certifications: <ul style="list-style-type: none"> <li>• CE for solar panels</li> <li>• UL for solar panels</li> <li>• The BOI in Thailand requires ISO 9000 and ISO 14000 certification within two years after the Commercial operating date.</li> </ul> 2) Retrofits and Replacements are now consistently excluded from the PoA as part of the eligibility criteria 3) Point e of the eligibility criteria have been revised to make it clearly adhere to EB65 annex3 paragraph (k). 4) Criteria revised – assessment of environmental impacts is only required in accordance with national regulations. 5) Table 3 in the PoA-DD has been updated with an extra column for required evidence/supporting documents.	<b>1st Comment from Validation Team on 30/03/2012</b> 1) With more specification provided in eligibility criteria (c) in section A.4.2.2 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012, DOE validated these specifications (i.e, IEC, EN, JIS certification) provided against specification of PV module submitted to DOE during onsite visit on 23/03/2012. DOE found that these specifications are in line with specification of PV module  However, PPs is requested to clarify whether all of certificates are to be met or either one of them is to be met, in order to be in line with this criterion.  This issue is pending.  2) The exclusion of “ <b>Retrofit</b> ” and “ <b>Replacement</b> ” is satisfied. This issue is closed.



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<p><b>Environmental Evaluation – Sustainable Development (IEE-SD)</b> is eventually submitted CME in order to justify its eligibility.</p> <p>5) With respect to the eligibility criteria defined in section A.4.2.2 of the PoA-DD, please clarify on how CME demonstrates the eligibility of the next CPAs through “<b>condition to be met</b>” derived from defined criteria (if appropriate) and “<b>likely evidence/supporting document</b>” that would possibly requested from CPA project owner in order to justify and/or support their eligibilities.</p>			<p>3) The revision in eligibility criteria (e) has been validated and DOE found that this latest revision is in line with para (k) of EB65 annex 3</p> <p>However, DOE can’t make final opinion regarding compliance of each item in this criterion. PPs is requested to clarify on how each item in this criterion related to each other, whether either one of them is to be met or all of them are to be met. The PPs is requested to re-arrange bullet-structured defined in this criterion to reflect the non-identical facts behind each item.</p> <p>On top of the above, the new CL is raised below in regard to “<i>the CPA in aggregate shall not exceed the 15MW limit for installed capacity throughout the crediting period</i>”, please see below CL13 for detail.</p> <p>This issue is pending.</p> <p>4) The revision in eligibility criteria (f) has been validated against new added description regarding</p>
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EIA requirement in section C.3 of the PoA-DD version 01 (Ref /3A/) dated 21/03/2012 and found that this is agree well between these two sections. This revision is satisfied and closed

- 5) With regard to “required evidence/supporting document” introduced in table 3 of PoA-DD version 01 (Ref /3A/) dated 21/03/2012, DOE finalize opinion for each document as follow;

Eligibility Criteria (point)	Required Evidence/ Supporting document	DOE's opinion
A	Power Purchase Agreement (PPA)	Reasonable
B	Feasibility Study Report (FSR)	Reasonable
C	FSR	Reasonable
D	Panel Supply Contract	Reasonable
E	FSR	<b>Need clarification</b>
F	CPA-DD	<b>Not accepted</b>
G	Letter from project developer	<b>Need clarification</b>
H	Letter from project developer	<b>Need clarification</b>





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I	Land or roof lease/owner agreement	Reasonable
J	Company business license	Reasonable
K	CPA-CME contract	Reasonable
L	Statement from project developer	<b>Need clarification</b>

Based on given opinion in each document above, PPs is requested to further clarify on these following.

(a) How is FSR able to give conclusive evidence to prove “install capacity” for the case of “Greenfield” or “Capacity addition”, given comments by PPs in parameter IC<sub>y</sub> in section E.6.3 of the PoA-DD that “*total installed capacity in FSR might be different from the value applied since the technology provider might not have been confirm at the time of CPD-DD preparation*”, and how is FSR able to prove that “*the CPA in aggregate shall not exceed the 15 MW limit for installed capacity throughout the crediting period*”.



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		<p>(b) Please give clear and objective definition of “<i>project developer</i>” who would issue the letter to support criteria (g), (h) and (l).</p> <p>(c) Please provide another document instead of “CPA-DD” to support criteria (f), since by CPA-DD alone can’t count as “evidence”, in fact whatever indicated in “CPA-DD” needs external “supporting document or evidence” to support what its claimed in CPA-DD. Therefore, CPA-DD is not accepted</p> <p>Based on above opinion, CL03 is pending.</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u></p> <p>1) The eligibility criteria have been revised to include that the technology should comply with national regulatory standards of Thailand<sup>1</sup>. These relate to PEA’s technical consideration criteria.</p> <p>2) Closed</p>	<p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u></p> <p>1) With reference to the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012, more description on criteria (c), which taking account of PEA technical standard, is accepted. This issue is closed.</p> <p>2) Closed.</p>
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<sup>1</sup> SD\_24, para-5,page-6



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		<p>3) The eligibility criteria are now updated in the design documents to be clear for both greenfield projects and capacity addition projects.</p> <p>4) Closed</p> <p>5) Criteria evidence:</p> <p>e) Evidence documents required here now additionally include the Power Purchase Agreement (PPA) for the project, which is more certain and confirmed than an FSR. As per the CPA-CME contract, the CPA Owner is required to notify the CME in the event of any future capacity expansions.</p> <p>f) The evidence required is now updated to the consultation documentation and IEE/EIA report (if an EIA is required)</p> <p>g) Debundling documentation has been updated to the statement in the CME contract with the CPA Owner and a check against the Thai Solar Database</p> <p>h) ODA documentation has been updated to either a letter from the CPA Owner or a statement in the contract between the CME and the CPA Owner. The word “taken” revised to diverted.</p> <p>l) Now updated to refer to the CPA</p>	<p>3) The latest revision in criteria (e) in section A.4.2.2. of this current version of PoA-DD mentioned above is satisfied. This issue is closed.</p> <p>4) Closed.</p> <p>5) DOE finalized opinions according to each criteria as fellow;</p> <p><u>Criteria (e)</u></p> <p>DOE took note for introduction of “Power Purchase Agreement (PPA)” apart from FSR. This PPA has been reviewed and DOE found that clause 1.3 in this document clearly indicated only “maximum amount of electricity that would be sold to PEA at <u>5 MW</u>” and there is no any statement in PPA to confirm value of “installed capacity” or “capacity addition” or “aggregated capacity” in this document. The only one concern issue on this document is the amount of electricity that PEA would pay to electricity producer regardless of its installed capacity. In other words, the installed capacity at electricity producer’s side could go beyond or less than this amount of</p>
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		Owner	<p>electricity (i.e., 5 MW) as long as electricity producer remain supplying electricity to PEA within this amount.</p> <p>On top of this, there is no any statement in both FSR and PPA to ensure CME and DOEs (at CPA inclusion) that the aggregated amount of installed capacity in one CPA would not exceed 15 MW.</p> <p>Given the statement provided by PP in previous version of the PoA-DD that “installed capacity” in FSR is not conclusive and there is possibility that installed capacity might differ from original indicated in FSR because it may not confirm by technology provider at the time of FSR production. Based on this statement previously provided, DOE could not accept FSR as evidence to support this criterion.</p> <p>Therefore, more clarification from PPs is requested or introduction of new evidence/supporting document is</p>
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welcome.

This issue is pending.

Criteria (f)

DOE took note on revision in criterion (g) that “**For stakeholder consultation: Minute of the meeting (if any)**”, given that local stakeholder consultation shall be done at CPA level as indicated in section D.1 of the current version of the PoA-DD.

Therefore, PPs is requested for further clarification on why this revision provides option for CPA owner to not provide this document depending on its availability (due to the fact that “*if any*” indicated at the end of this sentence).

DOE took note on the revision that “**For Environmental Impacts; Environmental Impact Assessment Report (if any)**”, and DOE agreed on this revision on some special conditions that CPA located in the area where EIA study is



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required in all cases, so, the EIA report can be submitted as evidence to support this criterion.

However, in case CPA not located in special area that need EIA in all cases, PPs is requested to clarify on what is document to submit to CME and/or DOE (at CPA inclusion) in order to support this criterion.

This issue is pending.

Criteria (g)

DOE took note on revision from “**project developer**” to “**CPA owner**” and introduction of “**CPA-CME contract**” to support this criterion, and DOE considered this revision is satisfied.

This issue is closed.

Criteria (h)

DOE took note on revision from “**project developer**” to “**CPA owner**” and introduction of “**CPA-CME contract**” to support this criterion, and DOE



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		<p>considered this revision is satisfied.</p> <p>However, checking of spacing in the text is requested, then, this issue would be closed.</p> <p><u>Criteria (I)</u> DOE took note on revision from “<b>project developer</b>” to “<b>CPA owner</b>” and introduction of “<b>CPA-CME contract</b>” to support this criterion, and DOE considered this revision is satisfied.</p> <p>This issue is closed.</p>
	<p><u>3<sup>rd</sup> Response from PPs on 06/06/2012</u></p> <p><u>Criteria(e)</u> At the time of inclusion, the power plant is not yet built. As such, it is not possible to provide evidence of the actual installed capacity. At the time of inclusion, only project plans are available, such as the FSR. As such, the FSR is considered the best available evidence for the planned installed capacity of the plant, supported by the PPA. If available at the time of inclusion, the EPC contract will also be checked to verify the installed capacity of</p>	<p><u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u></p> <p><u>Criteria (d)</u> DOE noticed the change in description of criteria (d) which is not stated in previous PoA-DD version 01 (Ref /3A/) dated on 30/04/2012, therefore, project participant is requested to clarify the reason behind this revision.</p> <p>The issue for criteria (d) is newly raised and pending.</p>



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	<p>the CPA. This requirement has now been added to the Eligibility Criteria.</p> <p>It is possible that the actual installed capacity of a plant may be slightly different from the planned capacity as stated in the FSR. However, any changes are likely to be small and given that additionality is automatic, such changes will be immaterial to the eligibility of the project. Only in cases where any small increases in the capacity will mean the plant is &gt;15MW will need to be carefully checked.</p> <p>After the inclusion, the CPA or plant owner will notify the CME through the monitoring template, in case of a capacity expansion, as stipulated in the CPA-CME contract (Refer SD-26). This will allow the CME to check that the installed capacity is still not more than 15MW.</p> <p><i>Criteria(f)</i> In criterion (f), the phrase “if any” has been deleted, thus not giving an option to PP but rather mandating them to have the minutes of the meeting document. The EIA document would be required if the CPA is located <a href="#">in one of the protected 25 watershed regions as provided in the website -</a></p>	<p><u>Criteria (e)</u> DOE took note on justification in regard to suitability of Feasibility Study report (FSR) and Power Purchase Agreement (PPA) to support eligibility criteria (e) in case the power plant is not yet built. These documents seem to be the best available evidence in this situation. DOE also held positive opinion for introduction of EPC contract as another evidences to support this criteria.</p> <p>Therefore, as long as these three documents are use as “combination” to cross-check the amount of “installed capacity” of the next CPA in time of inclusion, DOE holds positive opinion to this revision.</p> <p>The justification regarding slightly change in installed capacity, apart from what was indicated FSR and PPA, is reasonable. DOE considered this change could be ex-post captured by monitoring of “EG<sub>BL,Y</sub>” and/or “EG<sub>facility,y</sub>” at time of verification. The any change under limit of 15 MW is acceptable as long as it’s not violate small-scale project limit (i.e., 15 MW) within one CPA.</p>
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		<p><a href="http://water.rid.go.th/hyd/basin/25basin.htm">http://water.rid.go.th/hyd/basin/25basin.htm</a></p> <p>This has been revised in the list of Eligibility Criteria. Please refer to SD_42-watershed-area-map to see the class 1 protected zones in Thailand.</p> <p><i>Criteria(g)</i> The spacing has been revised.</p> <p><u>4<sup>th</sup> Response from PPs on 06/07/2012</u></p> <p>Criteria (d): The list of supporting documentation that could be provided as evidence for the start date (criterion d)</p>	<p>Thus, the issue for criteria (e) is closed.</p> <p><u>Criteria (f)</u> This revision is satisfied and closed.</p> <p><u>Criteria (g)</u> DOE noted the latest revision in criteria (g) that more description in term of de-bundling has been provided. This description has been validated against para 8-9 of EB54 annex13 “Guidelines on Assessment of Debundling for SSC project activities” and this is in line with this guidance.</p> <p>However, project participant is requested to check the word “closest point<sup>6</sup>” whether or not is there any additional suggestion/reference provide for this term, since it is seem to be more reference (i.e., point<sup>6</sup>) indicated at the top of this term.</p> <p>This issue for criteria (g) is pending.</p> <p><u>4th Comment from Validation Team on 13/07/2012</u></p> <p><u>Criteria (d)</u> DOE took note on the revision in criteria (d) as defined in section</p>
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		<p>has been expanded to account for the fact that for some CPAs, particularly the first CPA, a signed EPC contract or panel supply contract may not yet be available at the time of inclusion. As such, in these cases, evidence to support the expected date of signing of the EPC or Panel Supply contract would be provided, such as a project timeline/schedule.</p> <p>Criteria (g): The footnote next to the “closest” was an error and has been removed.</p>	<p>A.4.2.2 of the PoA-DD version 4.0 dated on 06/07/2012, it was found that “project timeline/schedule” was introduced to be one of supporting document to support criteria (d). Therefore, project participant is requested to further clarify on how is “project timeline/schedule” able to demonstrate the “implementation”, “construction”, “real action” and how is this document in line the definition of “starting date of CPA” as indicated in glossary of CDM terms version 5.0</p> <p>In addition, project participant is requested to check completeness of the word “project timeline.schedule” in this criterion.</p> <p>This issue is pending.</p> <p><u>Criteria (e)</u> As indicated in section A.4.2.2. of the PoA-DD version 04 dated on 06/07/2012, DOE noticed the revision in this criterion regarding supporting evidences (i.e., PPA, or FSR, or, if available, the EPC contract or project technical design document) even though the revision in criteria (e) at previous version of</p>
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		<p>PoA-DD has been accepted by DOE in 3<sup>rd</sup> DOE comment. As result of this change, the main key-message in this revision has altered DOE's opinions that had been already provided in previous comment – therefore, validation team agreed to issue one clarification request for this issue, please see CL17 for detail. The issue for criteria e) is transferred to CL17.</p> <p><u>Criteria (g)</u> The revision is satisfied and accepted.</p> <p>As result of pending issue in criteria (d) – this CL03 is pending.</p> <p><u>5<sup>th</sup> Response from PPs on 18/07/2012:</u></p> <p>To properly address the requirements of EB55, Annex 38, paragraph 7 (d), the eligibility criterion (d) has been revised to: “Confirmation that the start date of a CPA is not, or will not be, prior to the commencement of validation of the programme of activities, i.e. the date on which the CDM-POA-DD is first published for global stakeholder consultation”.</p>	<p><u>5<sup>th</sup> Comment from Validation Team on 30/07/2012</u></p> <p>DOE took note on new revised description in criteria (d) in the PoA-DD version 04 received on 18/07/2012, DOE is currently seeking the additional clarification in regard to the interpretation of paragraph 7(d) EB55 Annex38.</p> <p>With respect to revision in evidence to support criteria (d), project</p>
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		<p>The date of signing the EPC/ Panel Supply contract is the <u>action</u> that defines the start date of a CPA. As the first real action towards the project, this action is a valid CDM start date and is in line with the CDM Glossary definition of start date.</p> <p>As for the date when this action will/ did occur, we will provide evidence to support this for each CPA, particularly to confirm that the CPA did not start before the PoA was uploaded. Please note the phrase "... the start date of a CPA is not, <b>or will not be...</b>" in EB55, Annex 38, paragraph 7 (d). This confirms that EB accepts the situation when at the time of the CPA inclusion the CPA has not yet started and we just have to show that the start date <b>will not be</b> before the PoA publication date.</p> <p>In the case where EPC/ Panel Supply contract is not yet signed at the time of validation/ inclusion, it is not possible to provide evidence of the actual date that this action occurs. Therefore, in such cases a project timeline/ schedule proposed by EPC bidders or written communication between the project owner and EPC bidders/other third parties involved in the project</p>	<p>participant is requested to clarify these following;</p> <p>How are the evidences (i.e., EPC proposals with a project timeline/schedule; written communication between the project owner and EPC bidders or authorities or other third parties involved in the project development) equally equivalent to 'signed EPC or panel supply contract' in term of accurate, conservative, relevance, credible, reliable and completeness, as per requirement in paragraph 7-12 of VVM version 1.2?</p> <p>What is the specific information/content required in the new introduced evidences (i.e., EPC proposals with a project timeline/schedule; written communication between the project owner and EPC bidders or authorities or other third parties involved in the project development)?</p> <p>Please provide more concrete and objective elaboration on 'written communication between the project owner and EPC bidders or authorities or other</p>
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		<p>development, which provides reasonable evidence that the CPA had not started at the time of PoA upload and until present, shall be used. The 'real action' will only occur when the contract is signed. We cannot provide evidence that an action has occurred before it has occurred.</p> <p>Hence, the column "Evidence/Supporting documents for criterion (d) in the PoA-DD is revised as follows:</p> <p>"1) EPC contract or panel supply contract dated after 25/01/2012 (the PoA-DD publication date); OR</p> <p>2) Evidence that neither of the above are available until the current date, which may include, but not limited to:</p> <p>(a) EPC proposals with a project timeline/schedule; OR</p> <p>(b) Written communication between the project owner and EPC bidders or authorities or other third parties involved in the project development."</p> <p><u>6<sup>th</sup> Response from PPs on 06/09/2012:</u> The column "Evidence/Supporting documents for criterion (d) in the PoA-DD is revised as follows:</p> <p>EPC contract or panel supply contract will</p>	<p>third parties involved in the project development' which is defined as one of documents to support criteria (d).</p> <p><u>6<sup>th</sup> Comment from Validation Team on 21/09/2012</u> Validation team reviewed the revision in criterion (d) the PoA-DD version 4.0 dated on 06/07/2012 (received by email on 10/09/2012) and found that the EPC contract or</p>
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		<p>be used as evidence of starting date of a CPA. Only CPAs for which the EPC contract or panel supply contract is signed after 25th January 2012 can be included in the PoA.</p>	<p>panel supply contract will be used as evidence of starting date of a CPA. Only CPAs for which the EPC or panel supply contract is signed after 25<sup>th</sup> January 2012 can be included in the PoA.</p> <p>This statement above is satisfied and in line with EB55, Annex 38, paragraph 7 (d), given that date 25/01/2012 is dated on which PoA had published for global stakeholder consultation and uploaded on UNFCCC website.</p> <p>Therefore, the CL03 is closed.</p>
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<p><b>CL04</b> Please further clarify on how CME ensures that uniquely identified serial number of the CPA could avoid double counting from already registered CDM project activity and/or CPA of another PoA.</p>	3 (i) (ii)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> Each CPA will have unique GPS coordinates that will also be recorded along with the serial number. The GPS coordinates of proposed new CPAs will be cross-checked against the coordinates of the existing solar projects in the CDM database.</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> With evidence found during CME office visit and document entitle “<i>GRT Energy Small-Scale Solar PV (PoA) : Programme of Activities (PoA) Management System</i>” (Ref /08/) that each CPA would be recorded with GPS coordinate attached with its own serial number and put into Thai-Solar database. It’s likely to believe that each CPA under this PoA would be attached with GPS coordinate accompanied with its own serial number. In order to ensure there is no double counting, the justification from PPs that this would be check against coordinate of the existing solar project in CDM database is reasonable. This clarification is satisfied.</p> <p>The CL04 is closed.</p>
<p><b>CL05</b> Please incorporate the essential information from document “<i>GRT Energy Small-Scale Solar PV (PoA) - Programme of Activities (PoA) Management System</i>”, with respect to para 9(a) to para 9(g) of EB63 annex3, into section A.4.3 of the PoA-DD</p>	3 (i) (v)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> Not able to find 9(a) and 9(b) of EB65 Annex 3</p> <p><u>2<sup>nd</sup> Response of the PPs on 30/04/2012</u> A summary of the PoA Management</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> DOE took note in this typo and make correction to original CL05 as follow; “Please incorporate the essential information from document “<i>GRT Energy Small-Scale Solar PV</i></p>



## VALIDATION REPORT

		<p>System has now been including in the PoA-DD.</p>	<p><b>(PoA) - Programme of Activities (PoA) Management System</b>", with respect to para 9(a) to para 9(g) of EB63 annex3, into section A.4.3 of the PoA-DD", this correction has been replaced the old as appeared on the left.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u> DOE noticed the summary in table 4 regarding PoA-management system. and PPs is advised to incorporate essential information from "<b>GRT Energy Small-Scale Solar PV (PoA) - Programme of Activities (PoA) Management System</b>", to section A.4.4.1 of the PoA-DD <u>not</u> section A.4.3. DOE apologies for typo in 1<sup>st</sup> comment.</p> <p>Spelling check is requested for S. No.1 in particular of "<b>clean definition</b>"</p> <p>The reference to "<b>SD_5</b>" in table 4 is not easing the understanding of general reader who may not familiar with this abbreviation.</p> <p>This CL05 is pending.</p>
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## VALIDATION REPORT

		<u>3<sup>rd</sup> Response of the PPs on 06/06/2012</u>  Table 4: PoA-management system has been moved from section A.4.3 to A.4.4.1, as requested by the DOE. "Clean definition" has been replaced by "Clear definition". The supporting document SD_5 is named as GRT_POA MANAGEMENT SYSTEM THAILAND_02APR2011	<u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u>  The revision is satisfied and accepted.  This CL05 is closed.
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## VALIDATION REPORT

<p><b>CL06</b> As indicated in section B.1 of the PoA-DD, please provide justification and supporting document for starting date of PoA which is indicated as <b>"20/01/2012"</b></p>	<p>3 (I)</p>	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> The PoA start date has been updated in the PoA-DD</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u> The definition of the PoA start date is not consistent with the CDM glossary. When the PoA is uploaded for registration, the UN interface requires you to indicate the start date and the system only accepts the date which is at least 4 weeks after the date of uploading for registration-please consult your colleagues or other DOEs who already uploaded POAs for registration and they will confirm this. So by the POA start date, they actually mean the start date of the crediting period. So the date 01/12/2013 is correct.</p> <p><u>3<sup>rd</sup> Response from PP on 06/06/2012:</u> There is some confusion about the</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> With reference to latest revision in section B.1 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012, the date "01/01/2013" is not in line with the first date of publication of this PoA for global stakeholder consultation.</p> <p>This CL06 is pending.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u> As per 2<sup>nd</sup> response from PP, DOE took note on the issue raised and will provide feedback later.</p> <p>However, DOE wished to bring this issue into PP's attention and requested PP to further clarify on how the response from PP's side would be, in case there is issue raised because the start date of the first CPA (CPA-001) occurs prior to PoA start date (i.e., 01/12/2013, as per 2<sup>nd</sup> response provided by PP.</p> <p>This CL06 is pending.</p> <p><u>3<sup>rd</sup> Comment from Validation Team on 28/06/2012</u></p>
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## VALIDATION REPORT

		<p>definition of “PoA Start Date” and the start date of the crediting lifetime of the PoA. The PP understands that the start date of the PoA is when it is uploaded on the UNFCCC system. The start of the PoA crediting period is a date specified by the CME but at least 4 weeks after the start date (i.e. 4 weeks after the PoA start date). The start date of the crediting period is the date reporting in Section B.1 of the PoA-DD. This has been corrected to 2012 to be in line with the expected date of PoA registration and before the expected date of commissioning of the first CPA.</p> <p><u>4<sup>th</sup> Response from PPs on 06/07/2012</u></p> <p>The phrase “or the date or PoA registration” has been updated to “or the date of PoA registration”.</p>	<p>As per latest revision in section B.1 of PoA-DD version 3.0 (Ref /4A/) dated on 06/06/2012, project participant is requested to clarify the statement as following and what is actual meaning in this statement; “or the date <u>or</u> PoA registration”</p> <p>Based on finding above, the CL06 is pending.</p> <p><u>4th Comment from Validation Team on 13/07/2012</u></p> <p>As indicated in section B.1 of the PoA-DD version 04 dated on 06/07/2012, DOE noticed the change in expected start date of PoA that changed from 01/12/2012 to 01/02/2013, therefore, project participant is requested to clarify on why the expected start date had been changed and please provide supporting document to support this revision.</p> <p>DOE noticed the correction in the mentioned phrase and accepted.</p>
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## VALIDATION REPORT

		<p><u>5<sup>th</sup> Response from PPs on 18/07/2012:</u></p> <p>The original PoA crediting period start date of 01/12/2012 was updated to 01/02/2013 to more closely reflect the expected commissioning date of the first CPA to be included and thus maximise the lifetime of the PoA. The update is due to slight delays in the development of the first CPA.</p> <p>The update is a rough estimation based on our discussions with a project developer who expects their first CPA will be commissioned soon after this date. Please refer to the Technical Proposal (SD_52) and timeline (SD_53) to cross-check the expected date.</p> <p><u>6<sup>th</sup> Response from PPs on 06/09/2012:</u></p> <p>Para 158 of the PS states that the coordinating/managing entity shall determine the start date and length of the proposed CDM PoA and provide a description of how the start date has been determined. Please see above. This is in line with other registered</p>	<p>Due to unclear intention behinds the revision, this CL06 is pending.</p> <p><u>5<sup>th</sup> Comment from Validation Team on 30/07/2012</u></p> <p>DOE took note on the justification provided by project participant, however, the date 01/02/2013 is solely based on inconclusive issue regarding suitability of “technical proposal” to support criteria (e), as per discussion in CL17. Therefore, the PoA crediting period that rely on information in technical proposal is unsettled.</p> <p>This CL is pending.</p> <p><u>6<sup>th</sup> Comment from Validation Team on 21/09/2012</u></p> <p>Validation team noted the justification referring Project Standard (PS) para 158, given that this PoA is not developing on VVS track (in fact VVM version 1.2), therefore, guidance on PS is</p>
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## VALIDATION REPORT

		<p>PoAs.</p> <p>Para 159 of the PS states that the coordinating/managing entity shall determine the start date and expected operational lifetime of any proposed CDM CPA and provide a description of how the start date has been determined. Please see above and the revised section B.1. This is in line with other registered PoAs.</p> <p>Para 193 of the VVS reads that the DOE shall confirm that the start date of any CPA is not prior to the commencement of the validation of the PoA, which is the date the CDM-PoA-DD is first published for global stakeholder consultation i.e. the start date of the PoA.</p> <p>To avoid confusion, the B.1. has been revised to:  01/02/2013 (starting date of crediting period)  30/01/2013 (starting date of 1st CPA)</p>	<p>irrelevant and not perfectly applicable to apply on particular PoA developed on VVM track but validation team had no further comment for this reference.</p> <p>Without making reference to VVS which is not applicable to PoA developed under VVM, validation team agreed that determination of starting date of PoA crediting period and starting date of 1<sup>st</sup> CPA <u>shall</u> be supported by objective evidence.</p> <p>Therefore, project participant is requested to provide objective evidence to support starting date of PoA crediting period and starting date of 1<sup>st</sup> CPA.</p> <p>In addition to the above, combined with the latest revision in criteria (d) in section A.4.2.2. of PoA-DD version 4 dated on 06/07/2012 (received by email on 10/09/2012), given that only EPC contract or panel supply contract after 25/01/2012 would be used as evidence to supporting CPA starting date.</p> <p>Therefore, project participant is</p>
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## VALIDATION REPORT

		<p><u>6th Response from PPs on 05/10/2012:</u> Please refer to the already submitted Technical Proposal (SD_52) and timeline (SD_53) to verify the <u>expected</u> EPC contract signature date.</p>	<p>requested to submit evidence support starting date of 1<sup>st</sup> CPA (i.e., 30/01/2013) in line with this revision above.</p> <p>With opinion above, this CL06 is pending.</p> <p><u>6<sup>th</sup> Comment from Validation Team on 06/11/2012</u> Validation team reviewed the Technical Proposal (SD_52) (Ref /11/) that this document was submitted to Union Eco Power who is not entity responsible for the first CPA.</p> <p>Given the earlier clarification from project participant that Union Eco Power Co., Ltd is parent company of Lopburi Solar Co.,Ltd (entity responsible to 1<sup>st</sup> CPA), validation team consider this kind of shareholder relationship cannot imply that any action from parent company (i.e., Union Eco Power) is always the same as action from daughter company (i.e., Lopburi Solar Co., Ltd.).</p> <p>In addition, there is no clear guidance in CDM to allow parent</p>
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## VALIDATION REPORT

		<p>company's action to supersede action of entity whose its name is clearly published in CDM document as entity responsible to CPA.</p> <p>In this sense, project participant is requested to provide clarification letter from Lopburi Solar Co., Ltd. to clarify on how technical proposal that had been submitted to Union Eco Power Co., Ltd. can be used as evidence to support activity done by entity/individual responsible to 1<sup>st</sup> CPA</p> <p>This issue is pending.</p> <p><u>7<sup>th</sup> Response from PPs on 22/10/2012:</u> The letter from Union Eco Power (UEP) namely on the file "SD_58-UEP-LS EPC assignment agreement.pdf" was given.</p> <p><u>7<sup>th</sup> Comment from Validation Team on 05/11/2012</u> Validation team reviewed the submitted clarification letter from UEP (Ref /22/) clarified that UEP 100% own Lopburi Solar Co., Ltd. as acted as entity who request technical proposal for Lopburi Solar. This is accepted. and now the issue in CL06 is closed.</p> <p><u>Additional Note on 16/11/2012</u> Based on ITR comment, validation team requested project participant to clarify the term "PoA Start Date"</p>
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## VALIDATION REPORT

			<p>which is not provided in section B.1 of the PoA-DD version 4.0.</p> <p>In response to that, project participant had revised the PoA-DD and 'PoA start date at 25/01/2012' was added in the section.</p> <p>Validation team validated this date above against UNFCCC website and found that this is first date of PoA-DD/CPA-DD publication for global comment. This is accepted.</p>
<p><u>CL07</u></p> <p>As description in section C.2 of the PoA-DD, please provide accessible link to the reference regarding EIA requirement in Thailand.</p>	3 (o)	<p>1<sup>st</sup> Response from PPs on 20/03/2012</p> <p><a href="http://www.onep.go.th/eia/index.php?option=com_content&amp;view=article&amp;id=67:2010-10-04-22-39-53&amp;catid=4:2010-09-16-04-32-17&amp;Itemid=10">http://www.onep.go.th/eia/index.php?option=com_content&amp;view=article&amp;id=67:2010-10-04-22-39-53&amp;catid=4:2010-09-16-04-32-17&amp;Itemid=10</a></p>	<p>1<sup>st</sup> Comment from Validation Team on 30/03/2012</p> <p>The updated link provided in section C.2 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012 is accessible.</p> <p>This CL07 is closed.</p>
<p><u>CL08</u></p> <p>As indicated in section E.5.2, please further elaborate on how automatic additionality would be objectively justified in term of "specific condition to be met" (derived from defined eligibility criteria, if appropriate) and/or "likely evidence/supporting document" that CME would further request from the next CPA project owner in order to support its claims regarding automatic additionality.</p>	3 (y) (ii)	<p>1<sup>st</sup> Response from PPs on 20/03/2012</p> <p>In accordance with EB63 Annex 24:</p> <p>"The positive list of grid-connected renewable electricity generation technologies that are</p> <p>automatically defined as additional, without further documentation of barriers, consists of the following grid-connected renewable electricity generation technologies of installed capacity up to 15</p>	<p>1<sup>st</sup> Comment from Validation Team on 30/03/2012</p> <p>DOE cross-checked the justification from 1<sup>st</sup> response against eligibility criteria and "required evidence/supporting document" in section A.4.2.2. of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012 and found that this justification is reasonable.</p>





## VALIDATION REPORT

		<p>MW:</p> <p>(a) Solar technologies (photovoltaic and solar thermal electricity generation);</p> <p>As such, each CPA must be additional if it comprises grid-connected solar technologies with installed capacity up to 15MW. This will be objectively assessed by confirming the aggregate capacity of all installed solar panels as per the rated capacity of the panels provided by the manufacturer specification sheets and by reviewing government licenses/ permits/ PPAs and/or feasibility study reports for each installation.</p>	<p>Therefore, CL08 is closed.</p>
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## VALIDATION REPORT

<p><b>CL09</b></p> <p>1) With reference to description in section A.4.2.1 of the PoA-DD that the project would involve the <u>capacity expansion at existing facility</u>, please further clarify its linkage to para 15 and 18 of methodology AMS-I.D version 17 and how it would relate to the description of technology to be employed, eligibility criteria, calculation of emission reduction, data/parameter to be reported, monitoring parameter, and/or any relevant section of PoA-DD/CPA-DD</p> <p>2) As description of “<b>leakage</b>” provided in section A.4.2.1, please clarify on how this information related to the description of technology to be employed, eligibility criteria, and/or any relevant section of the PoA-DD</p>	<p>3 (z) (ii)</p>	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u></p> <p>1) Revise PDD ER calculations and baseline data (last 3 years or less if less available) for CPAs that involve capacity expansion</p> <p>2) Exclude CPAs, or those parts of the CPA, where the panels/ technology is transferred from another activity.</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u></p> <p>1) Refer to CL12</p> <p>2) The PoA-DD eligibility criterion (I) has been updated accordingly. A project activity that includes any transferred equipment will not be eligible for inclusion (in its entirety)</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u></p> <p>1) DOE noted the revision of “capacity expansion at existing facility” in section E.6.2 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012, this resulting to more clarification requested as indicated in CL12 below, please see for detail</p> <p>2) Based on new added criteria (I) in version 01 dated 21/03/2012 of the PoA-DD, please further clarify that in case there is parts of panels/technology in one particular CPA transferred from another activity whether only that equipment or entire CPA would be excluded, and please further clarify on what is real concept of “excluded” in this context.</p> <p>Therefore, CL09 is pending</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u></p> <p>1) Refer to CL12</p> <p>2) The revision on criterion (I) in section A.4.2.2. of the PoA-DD version 01 (Ref /3A/) dated on</p>
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VALIDATION REPORT



			30/04/2012 is satisfied This CL09 is closed.
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## VALIDATION REPORT

<p><u>CL10</u> As indicated in page 11 of AMS-I.D version 17, please clarify on how is guidance in para 17 of EB61 annex 21 taken into account in defining of calibration of electricity meter used in monitoring of EG<sub>facility,y</sub>.</p>	3 (aa) (i)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> EB61 para 17” “Measuring equipment should be certified to national or IEC standards and calibrated according to the national standards and reference points or IEC standards and recalibrated at appropriate intervals according to manufacturer specifications, but at least once in three years”.</p> <p>The PoA-DD specifies that the electricity meter will be calibrated in accordance with the Provincial Electricity Authority (PEA) standards (i.e. national standards). The PEA standards conform with IEC standards IEC-61557/12, IEC-62053/22 class 0.5s, and IEC-62053/23 class 2 (refer to SD_22 now provided)</p> <p><u>2<sup>nd</sup> Response from PPs on 30/04/2012</u> The PoA-DD has been updated in Section E.7.1</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> With reference to section D.7.1 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012, DOE can't found the statement in 1<sup>st</sup> response in this section</p> <p>The CL10 is pending.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 11/05/2012</u> DOE took note on the latest revision in PoA-DD version 01 (Ref /3A/) dated on 30/03/2012 and satisfied.</p> <p>The CL10 is now closed.</p>
<p><u>CL11</u> Please clarify the discrepancy of the address of GRT Energy Co., Ltd. as indicated in annex 1 of the PoA-DD with respect to company registration document (Ref /15/)</p>	3 (cc) (ii)	<p><u>1<sup>st</sup> Response from PPs on 20/03/2012</u> Address in annex1 of PoA-DD is updated to 2/260 Nusasiri Grand Condo. 26<sup>th</sup> Fl., Sukumvit 42, Sukhumvit Rd, Phrakanong, Klongtoey, Bangkok 10110 Thailand, which is the same as in the company registration document.</p>	<p><u>1st Comment from Validation Team on 30/03/2012</u> This revision is in line with company registration document (Ref /15/).</p> <p>This CL11 is closed.</p>



## VALIDATION REPORT

<p><u>CL12</u> As per section E.6.2 of the PoA-DD version 01 (Ref /3A/) dated 21/03/2012, please clarify on how these following parameters related to other sections of PoA-DD, specific CPA-DD and generic CPA-DD in term of, including but not limit to, data to be reported, data available at time of validation, data to be monitored, etc.</p> <ul style="list-style-type: none"> <li>- <math>EG_{PJ, facility, y}</math></li> <li>- <math>EG_{historical}</math></li> <li>- <math>\sigma_{historical}</math></li> <li>- <math>DATE_{BaselineRetrofit}</math></li> </ul>		<p><u>1<sup>st</sup> Response from PPs on 30/04/2012</u></p> <p>The capacity addition parameters listed are now included in Section E.6.3 of the PoA-DD.</p>	<p><u>1<sup>st</sup> Comment from Validation Team on 11/05/2012</u></p> <p>As per description of parameter "<math>EG_{historical}</math>" provided in section E.6.3 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012, DOE considered that there is possibility to obtain data for "<i>annual average historical net electricity generation of the existing renewable energy plant</i>" required to estimate <math>EG_{historical}</math> at time of validation for the next CPA inclusion.</p> <p>Therefore, PPs is requested to further clarify on why description of <math>EG_{historical}</math> in "<i>source of data used</i>" is indicated as "<i>to be specified in the CPD-DD</i>"</p> <p>In case of parameter <math>DATE_{BaselineRetrofit}</math> in this section, DOE noticed that area of "<i>Source of data used</i>" is specified as "<i>To be specified in the CPA-DD</i>", while area of "<i>Justification of the choice of data or description of measurement methods and procedures actually applied</i>" and "<i>Any comment</i>" are left blank. DOE considered that there are possibility to be more specific in those areas above, given that there</p>
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## VALIDATION REPORT

are several of existing Solar PV power plants operating in Thailand. For the sake of clarity and avoiding unclear direction at the next CPA inclusion, PPs is requested to be more specific on these areas mentioned above or further clarification behind this current revision is welcome.

For case of  $\sigma_{\text{historical}}$ , same as reason provided by DOE above, PPs is requested to be more specific in the area of “*Any Comment*” in order to avoid unclear direction and provide more clarity at the next CPA inclusion.

More importantly, DOE noticed that parameter “*PLF (Plant Load Factor)*” that has been indicated in previous version of the PoA-DD dated on 21/03/2012, are now deleted out in this current version (dated on 30/04/2012). Therefore, PPs is requested for further clarification on why parameter “*PLF*” is not to be reported.

In the light of opinions above, CL12 is pending.

2<sup>nd</sup> Response from PPs on 06/06/2012



## VALIDATION REPORT

		<p>The “source of data” section for parameter <math>EG_{\text{historical}}</math> has been updated in the POA-DD.</p> <p>The “Source of data used”, “Justification of the choice of data or description of measurement methods and procedures actually applied” and “Any comment” sections have been updated for the parameter <math>DATE_{\text{BaselineRetrofit}}</math> in the PoA-DD.</p> <p>The “Any comment” section for the parameter <math>\sigma_{\text{historical}}</math> has been updated in the PoA-DD.</p> <p>The alignment of “<i>For capacity addition</i>” is corrected.</p> <p>PLF is not needed as it is not monitored. The total installed capacity is reported and the total MWhrs generated is monitored – as such, the PLF can be calculated from these 2 parameters and so is redundant.</p>	<p><u>2<sup>nd</sup> Comment from Validation Team on 28/06/2012</u></p> <p>These following revision had been reviewed by DOE and satisfied;</p> <ul style="list-style-type: none"> <li>- Introduction of “<math>EF_{\text{grid,CM,y}}</math>” at the end of <math>EF_{\text{CO2,grid}}</math></li> <li>- Sources of data to be used and comment for parameter <math>\sigma_{\text{historical}}</math></li> <li>- Sources of data to be used for parameter <math>EG_{\text{historical}}</math></li> <li>- Revision in source of data used, justification of the choice of data or description of measurement methods and procedures actually applied and comment for the parameter <math>DATE_{\text{BaselineRetrofit}}</math></li> <li>- Correction in “<i>For capacity addition</i>” at CPA-DD</li> </ul> <p>DOE took note for clarification of Plant Load Factor (PLF) and satisfied.</p> <p>Therefore, the CL12 is closed.</p>
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## VALIDATION REPORT

<p><b>CL13</b> With regard to new revision on eligibility criteria (e) in section A.4.2.2. of the PoA-DD version 01 (Ref /3A/) dated 21/03/2012 that <i>“the CPA in aggregate shall not exceed the 15MW limit for installed capacity throughout the crediting period”</i>, combined with initial responses from PPs during onsite visit (23/03/2012), please further clarify on how to ensure that the combined total installed capacity of any CPA would remain in 15MW limit throughout crediting period.</p>		<p><u>1<sup>st</sup> Response from PPs on 30/04/2012:</u></p> <p>The eligibility criterion (e) has been revised to reflect the requirement that the aggregated capacity of a CPA shall not exceed 15 MW throughout the CPA crediting period. In accordance with <i>General Guidelines to SSC CDM methodologies</i>, version 17, if a project activity goes beyond the limit of its type in any year of the crediting period, the emission reduction that will be claimed by the project activity during this particular year will be capped by the maximum emission reduction estimated in the CPA-DD by the PP for that year during the crediting period. In case a capacity expansion occurs after the CPA inclusion, this will be dealt with in line with the relevant EB guidelines and procedures on the changes to the project design of a registered project activity.</p> <p>To ensure any capacity increase is identified:</p> <ul style="list-style-type: none"> <li>• The MWhrs for which credits would be claimed will be monitored closely by the CME through the monitoring template (Table 2, of the SD_5: PoA Management System). If there is any change in the MWh, or a level of</li> </ul>	<p><u>1<sup>st</sup> Comment from Validation Team on 11/05/2012</u></p> <p>As per 1<sup>st</sup> response from PP regarding <i>“General Guideline to SSC CDM methodologies, version 17”</i>, DOE reviewed paragraph 3(a) in this guideline and found that <i>“if a project activities goes beyond the limit of its type in any year of the crediting period, the emission reduction that can be claimed by the project activity during this particular year will be capped by the maximum reduction estimated in the CDM-SSC-PDD by the project participant for that year during the crediting period”</i>. DOE agreed on implication of this paragraph by PP.</p> <p>For the sake of clarity and avoiding unclear direction regarding this unexpected situations (i.e., installed capacity in one particular CPA goes beyond the limit in some point of time in the future), PPs is requested to incorporate this guidance into either PoA-DD or PoA Management System document or other additional documents, as CME see fit. Please provide the response in the next submission. This issue is pending</p>
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## VALIDATION REPORT

		<p>MWh greater than expected for the installed capacity, the CME would be notified from Table 2, and thus CME could investigate the issue at verification.</p> <ul style="list-style-type: none"> <li>• The monitoring template also requires the CPA Owner to report any changes to the installed capacity</li> <li>• The CPA-CME contract requires the CPA Owner to notify the CME in case of any design changes including changes in the installed capacity.</li> <li>• The CPA Owners will be briefed about the issues of de-bundling, capacity expansion and double counting during the training.</li> </ul> <p><u>2<sup>nd</sup> Response from PPs on 06/06/2012</u></p> <p>_A separate section on capacity expansion procedure has been added to the "GRT Energy Small-Scale Solar PV: PoA Management System". Installed capacity of the plant is also to be regularly reported as part of the monitoring template.</p>	<p>In top of the above, DOE noticed the revision of table 2 in "<i>GRT Energy Small-Scale Solar PV : PoA Management System</i>" document and likely to believe that any change in "<i>installed capacity</i>" in one of CPAs under this PoA would be objectively documented and closely followed up by CME.</p> <p>This is satisfied and this issue is closed.</p> <p>Based on pending issue provided above, the CL13 is pending.</p> <p><u>2<sup>nd</sup> Comment from Validation Team on 28/06/2012</u></p> <p>DOE reviewed latest version of document "GRT Energy Small-Scale Solar PV: PoA Management System" (Ref /09/) and found that new separate section for "Procedure for Capacity Expansion of an existing CPA" is now provided.</p> <p>DOE holds positive opinion for this addition and satisfied.</p> <p>Therefore, CL13 is closed.</p>
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<p><b>CL14</b> As indicated in section A.4.2.1 of the PoA-DD version 01 (Ref /3A/) dated on 21/03/2012 that “<i>typical CPA under the current PoA comprise <u>one or more newly-built</u></i>”, please clarify whether there would be one project activity in one CPA or there would be possible to have bundle project activities in one CPA.</p>		<p><u>1<sup>st</sup> Response from PPs on 30/04/2012</u>  A typical CPA in the current PoA could comprise of a single project activity or a bundle of project activities.</p>	<p><u>1<sup>st</sup> Comment from Validation Team on 11/05/2012</u> DOE noticed the revision to “<i>or a bundle of project activities</i>” in section A.4.2.1 of the PoA-DD version 01 (Ref /3A/) dated on 30/04/2012.  This revision is clear and satisfied.  The CL14 is closed.</p>
<p><b>CL15</b> With PPs responses during CME office visit on 24/03/2012 that CME will conduct 2 levels of training covering technical and practical aspects for CME personnel, PPs is requested to further elaborate on what is specific topic to be trained and the objective evidences to support this training. How the next responses from PPs would be incorporate into document “<i>Programme of Activities (PoA) Management System</i>”</p>		<p><u>1<sup>st</sup> Response from PPs on 30/04/2012</u>  The training will be provided to the CME and also to the CPA Owners. The training would reflect the PoA Management System and the CPA Manual respectively (refer to SD_5).</p>	<p><u>1<sup>st</sup> Comment from Validation Team on 11/05/2012</u> DOE reviewed the new revision of “<i>GRT Energy Small-Scale Solar PV (PoA) – Programme of Activities (PoA) Management System</i>” version 02 dated on November 2011 (Ref /09/) and found that more elaborative on specific topic that would be trained is now provided in page 7-8 of this document. Based on this scope of the training, DOE likely to believe that this training would be implemented in the way to ensure that GRT personnel will obtain sufficient skills and knowledge in order to manage and control CPAs under this PoA.  Therefore, CL15 is closed.</p>



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<p><b>CL16</b> With reference to item “<i>Record keeping system</i>” in page 12 of document “<i>Programme of Activities (PoA) Management System</i>” version 01 (Ref /08/) combined with responses from PPs during CME office visit on 24/03/2012, PP is requested to clarify on what is “<i>other available information about the CPAs</i>” in order to avoid double-counting and/or de-bundling check for this PoA.</p>		<p><u>1<sup>st</sup> Response from PPs on 30/04/2012</u></p> <p>Other available information includes:</p> <ul style="list-style-type: none"> <li>• VSPP database maintained by PEA</li> <li>• UNFCCC website of CDM projects and programmes.</li> </ul> <p>This has been updated in the PoA Management System document (SD-5).</p>	<p><u>1<sup>st</sup> Comment from Validation Team on 11/05/2012</u></p> <p>DOE reviewed the new revision of “<i>Programme of Activities (PoA) Management System</i>” version 02 (Ref /09/) in page 13 and found that VSPP database maintained by PEA and UNFCCC website are indicated external database to be regularly cross-checked comparing to “<i>Thai Solar Database</i>”</p> <p>DOE also reviewed PEA database (Ref /10/) as indicated in the document and found that the list of Solar Power Plants in Thailand is comprehensive and well maintained. This is satisfied.</p> <p>The CL16 is closed.</p>
<p><b>CL17</b> As result of the latest change in criteria (e) as indicated in section A.4.2.2 of the PoA-DD version 04 dated on 06/07/2012, project participant is requested clarify these following issues;</p> <ol style="list-style-type: none"> <li>1) What is the reason behind the revision in term of “suggested document/supporting document” in criteria (e)?</li> <li>2) With implication for this latest change in term of “suggested evidence/supporting documents”, how can <u>either one</u> of these</li> </ol>		<p><u>1<sup>st</sup> response from PPs on 18/07/2012:</u></p> <ol style="list-style-type: none"> <li>1) In some cases, one or several of these documents may not be available at the time of validation/ inclusion. As such, to keep the criteria flexible and non-restrictive, the list of suggested evidence for criteria (e) has been expanded</li> <li>2) We believe that either one of these documents is sufficient to provide evidence of the Greenfield nature of</li> </ol>	<p><u>1<sup>st</sup> Comment from Validation Team on 30/07/2012</u></p> <ol style="list-style-type: none"> <li>1) DOE noted the justification, please see comment in point (3)</li> <li>2) With reference to 1<sup>st</sup> response from project participant, DOE refuse to accept the justification that either one of these mentioned evidences is sufficient to provide information that supporting condition in criteria (e), this is based on the</li> </ol>



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<p>documents such as, PPA or FSR or EPC contract, or project technical design document able to provide conclusive information in regard to eligibility condition set out in criteria (e).</p> <p>3) Please clarify on how can <u>either one</u> of these documents such as, PPA or FSR or EPC contract or project technical design document able to provide clear linkage between “entity/individual responsible for the small-scale CPA” and “technology supplier” with effective legal-binding condition between these two entities.</p> <p>4) Please clarify on how CME (i.e., GRT Energy Co., Ltd.) can ensure that next CPA implementer will not use only <u>either one</u> of these document such as, PPA or FSR or EPA contract or project technical design document to escape from criteria (e) and causing “erroneous inclusion” in inclusion stage.</p>		<p>the project and of the planned installed capacity. FSR alone has always been accepted by EB as a valid source to demonstrate the project design. However, we have changed the wording of this section such that PPA <b>and</b> FSR/project technical design documentation (proposals from EPC bidders or similar documentation outlining project design) <b>and</b> EPC/Panel Supply Contract <b>if available</b>. All three of these documents provide reasonable evidence to confirm the planned project design details. Note that in some cases, the CPA Owner may also be the EPC provider and so there would not be a contract with an external EPC contractor.</p> <p>3) We only request available documentation that provides reasonable evidence of the technical design of the project, such as Greenfield design, grid connection and planned installed capacity. While this documentation should be ‘verifiable’, we do not see a need to request documentation to provide evidence for a linkage between the “entity/individual responsible for the small-scale CPA” and the “technology supplier” with effective legal-binding</p>	<p>finding by DOE that only PPA alone can’t provide information about “installed capacity” and not showing status of “Greenfield” and/or “capacity addition”, the only concerned statement in PPA is the amount of electricity that would be sellable to PEA regardless to what its installed capacity.</p> <p>The FSR alone may be accepted by EB in some specific case but it’s doesn’t mean that any detail in FSR will be automatically accepted by DOE, this is why there is no any guidance in VVM version 1.2 that instruct DOE to immediately accept FSR as valid sources of data without appropriate validation judgment. In other hand, DOE is strictly responsible to validate that any information provided by project participant is accurate, conservative, relevant, credible, reliable and completeness, as per indicated in paragraph 7-12</p> <p>Combined with detail provided by project participant in past version of the PoA-DD that any</p>
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		<p>condition between these two entities. At the time of validation or inclusion, such a legally binding document such as a signed EPC contract, may not yet be available so in such cases other project documentation (FSR, PPA and technical design documentation) will be requested to confirm eligibility.</p> <p>4) Please refer to (2) above – revisions have been made to ensure that in lieu of a signed EPC/Panel Supply contract, an PPA and FSR/technical design documentation are requested. The compliance with criterion (e) has to be demonstrated via the stated documents. If the documents provided cannot demonstrate compliance, the CPA will not be included.</p>	<p>detail is not conclusive and subjected to change due to unsettle details during FSR preparation, DOE also commented FSR that the detail in FSR is not conclusive and not provide confirmation that the CPA implementer will install exactly amount of Solar PV as what written in FSR.</p> <p>3) and 4) DOE noted the justification provided by project participant and have comment that the justification is not strong enough to alleviate the concern about “erroneous inclusion” which may be result of using inconclusive and non-binding document to claim eligibility over criteria (e).</p> <p>The comment above is based on the given evidences (i.e., technical proposal and project timeline/schedule) provided as example to support first CPA (CPA – 001), DOE noticed that these evidences not even mentioned the name of first CPA implementer but instead addressed to some company</p>
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			<p>which is unknown by DOE. On top of that, the technical proposal show no any final commitment either from EPC contractor or entity who got the service, it is only paper document that any company can freely proposed without any commitment supported by rule of law. Given that there is no signature signed at the end of technical proposal showing conclusive agreement with effective legal-binding between two parties, therefore, DOE concerned that how can CME make sure any detail in the technical proposal will carry on as what written in this document. DOE can't ensure that given available document (i.e., technical design document, proposal from EPC bidder or similar document outlining project design) in absence of signed EPC, will open the room for erroneous inclusion.</p> <p>In the sense of above, project participant is request to clarify on these following issue; In the absence of effective legal-</p>
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			<p>binding and possibly no linkage with “entity/individual responsible for the small-scale CPA” in evidences (i.e., project technical design document, proposal from EPC bidders or similar document outlining project design), how can these evidences would fulfill principle of accurate, conservative, relevant, credible, reliable and completeness as per requirement in paragraph 7-12 of the VVM version 1.2</p> <p>What is specific detail/information in the abovementioned evidences that GRT Energy Co., Ltd. as CME for this PoA would accept to use as valid evidence to support criteria (e)?</p> <p>Please provide more concrete and objective elaboration on ‘similar document outlining project design’</p> <p>With opinion above, this CL17 is pending.</p>
		2 <sup>st</sup> response from PPs on 06/09/2012:	2nd Comment from Validation Team



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		<p>The evidence for criterion “e” is revised as follows:</p> <p>“The CPA-CME contract specifying <u>that the intended installed capacity is &lt;15MW</u> and confirming that the proposed project is not a combined heat and power project”. This is a legally-binding agreement which establishes a clear linkage with “entity/individual responsible for the small-scale CPA”. Its usage as evidence fulfills the principle of accuracy, conservativeness, relevancy, credibility, reliability and completeness as per requirement in paragraph 7-12 of the VVM version 1.2</p> <p>The revised CPA-CME contract template that will be used for all CPAs is attached.</p>	<p><u>on 21/09/2012</u></p> <p>Validation team reviewed the justification from project participant but could <u>not</u> agree that this CPA-CME contract specifying the intended installed capacity is &lt;15 MW is fully comply with para 7-12 of VVM version 1.2 based these following reasons;</p> <p>(a) Even though, the CPA-CME contract is providing linkage with “entity/individual responsible for the small-scale CPA” but this CPA-CME contract does <u>not</u> provide any linkage to technology provider or the one who will contact technology provider for the sake of CPA side. This contract doesn’t fulfill principle of relevant, reliability and completeness defined by VVM.</p> <p>(b) Compared with other stronger contracts, this CPA-CME is not conclusive and cannot ensure validation DOE that particular CPA would definitely install exact amount of Solar PV capacity. In view of validation team, this contract provide only <u>Upper threshold</u> of installed capacity limit and doesn’t complete principle of “accuracy” defined in</p>
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		<p>para 7 of VVM version 1.2</p> <p>To validate the claim of “Automatic Additional” applied in this PoA, please noted that validation team exercising guidance in para 94 of VVM 1.2, stated below, to assess suitability of the CPA-CME contract in demonstrating “automatic additional” applied by this PoA.</p> <p>95. The DOE shall assess and verify the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by project participants to support the demonstration of additionality.</p> <p>With opinion above, the CL17 is pending.</p> <p><u>3rd response from PPs on 05/10/2012</u> Criterion (e) in Table 3 of section A.4.2. of the PoA-DD has been revised as follows:</p> <p>FSR and EPC/panel supply contract/purchase order specifying the installed capacity and confirming that the proposed project is not a combined heat and power project.</p>	<p><u>3<sup>rd</sup> Comment from Validation Team on 20/10/2012</u> Validation team took note on revision in criterion (e) in Table 3 of section A.4.2.2 of the PoA-DD. Validation team agreed that <u>combination</u> of feasibility study report (FSR) and EPC/panel supply contract/purchase order is fulfill</p>
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			<p>requirement in para 7-12 of VVM version 1.2</p> <p>This is accepted and CL17 is closed.</p>
<p><b>CL18</b></p> <p>As result of the latest revision in section A.4.5 of the PoA-DD version 04 dated on 06/07/2012, project participant is requested to clarify on why statement that “..there is no public funding available for the GRT Energy small-scale Solar PV PoA. No sources of public funding for individual CPAs likely to be included in the PoA have been identified..” had been deleted out. Please clarify if the next CPAs get public funding what will affect to the status of that CPAs under this PoA framework. How will GRT Energy Co., Ltd as CME for this PoA handle the situation?</p>		<p><u>1<sup>st</sup> response from PPs on 18/07/2012:</u></p> <p>The statement has been deleted in order to allow CPAs with public funding to be included in the POA, as the CME does not see any reason not to include such projects. Such projects will have to demonstrate that no ODA is diverted (in line with EB 55, Annex 38, para. 6(n) and this is already ensured via eligibility Criterion (h) in the PoA-DD.</p>	<p><u>1<sup>st</sup> Comment from Validation Team on 30/07/2012</u></p> <p>The justification is sound and accepted.</p> <p>In light of the above, the CL18 is closed.</p>